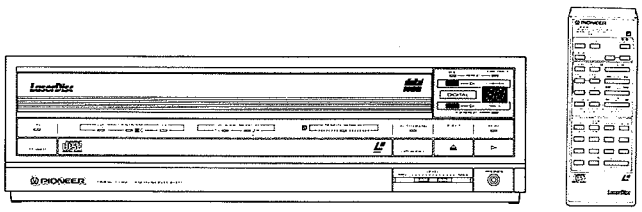
LaserDisc™

Operating Instructions

COMPACT DISC/ LASERVISION PLAYER

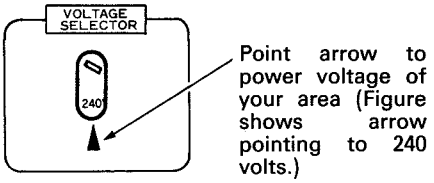
CLD-901 NTSC



VOLTAGE SELECTOR SWITCH

A 4-point (110 V/120 V/220 V/240 V) voltage selector switch is loacted on the rear panel of the player. Check that it is set properly before plugging the power cord into an AC outlet. if the voltage is not properly set or if you move to an area where the voltage supply differs, adjust the selector switch as follows:

1. Disconnect the power cord.
2. Use a medium-sized (flat blade) screw-driver. Insert the tip of the screwdriver into the groove of the selector switch and turn it to set the player to the power voltage of your area.



Point arrow to power voltage of your area (Figure shows arrow pointing to 240 volts.)

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

CAUTION: Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION: THE USE OF OPTICAL INSTRUMENTS WITH THIS PRODUCT WILL INCREASE EYE HAZARD.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

LaserVision Videodiscs and Compact disc beaing the symbols below should be used with this player.

(LaserVision Disc)

LaserVision

This is the unified symbol mark of LaserVision Videodisc

The LaserVision symbol certifies compatibility with other laser optical products bearing the same symbol.

This player is to be used exclusively with the NTSC color system. Please use NTSC LaserVision discs only. PAL and SECAM system LaserVision discs cannot be used with this player.

(Compact Disc)

COMPACT disc DIGITAL AUDIO

PIONEER®

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNINGS — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

ATTACHMENTS — Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this video product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.

ACCESSORIES — Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the appliance should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

VENTILATION — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

POWER SOURCES — This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

POLARIZATION — This video product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact you electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

POWER-CORD PROTECTION
Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

LIGHTNING — For added protection for this video product receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power-line surges.

POWER LINES — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

OVERLOADING — Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

OBJECT AND LIQUID ENTRY — Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

SERVICING — Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE
Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the video product.
c. If the video product has been exposed to rain or water.
d. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
e. If the video product has been dropped or the cabinet has been damaged.
f. When the video product exhibits a distinct change in performance — this indicates a need for service.

REPLACEMENT PARTS — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

SAFETY CHECK — Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and build up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
See Fig. A.

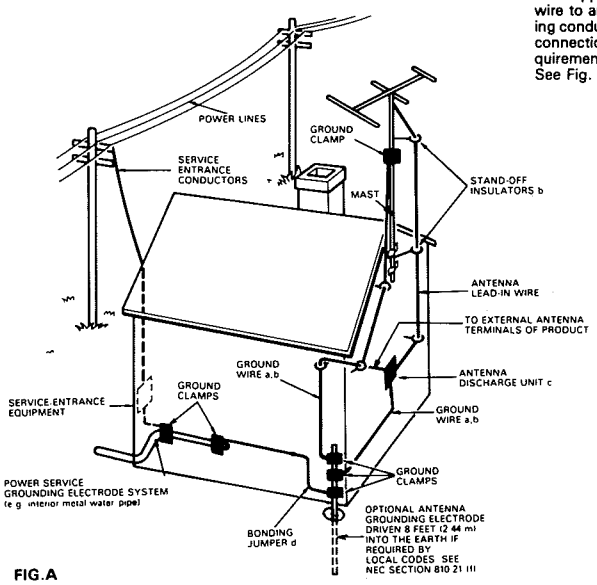

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
ANTENNA DISCHARGE UNIT c
GROUND CLAMPS
SERVICE-ENTRANCE EQUIPMENT
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810 21 (f)
BONDING JUMPER d

FIG.A

a) Use No. 10 AWG (5.3 mm²) copper wire, No. 8 AWG (8.4 mm²) aluminum wire, No. 17 AWG (1.0 mm²) copper-clad steel wire, bronze wire or larger wire as ground wire.
b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.
c) Mount antenna discharge unit as closely as possible to where lead-in enters house.
d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper or equivalent when separete antenna-grounding electrode is used.

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CONTENTS

Features 3
Discs 4
Disc Handling Precautions 5
Before Operation 6
Rear Panel Facilities 7
Connections 8
Panel and Remote Control Unit Facilities 11
Basic Operation 15
Remote Control Operations 18
LaserVision Disc Playback Functions 19
Compact Disc Playback Functions 27
Program playback 32
Troubleshooting 34
Specifications 37

FEATURES

AUTOSTART FUNCTION WITH AUTOMATIC DISCRIMINATION OF COMPACT DISC/LASER-VISION DISC
When the disc table with a disc set upon it is drawn into the player, the player automatically discriminates the type of disc on the table, and begins playback.

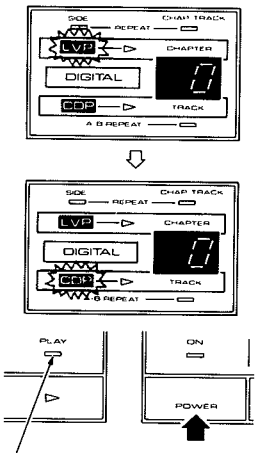
CX NOISE REDUCTION SYSTEM
When use is made of CX encoded LaserVision discs, an expanded dynamic range and greatly increased signal to noise ratio are obtained.

EXTERNAL CONTROL
The player is provided with an I/O PORT and control input/output terminals. These enable it to be controlled by a personal computer, or to be connected into systems comprising products with the PIONEER SR mark.

CAN PLAY BACK THE DIGITAL SOUND OF "LASERVISION WITH DIGITAL SOUND DISCS"
Can play back the digitally recorded sound of the LaserVision with Digital Sound Discs. There is no need for any extra adaptor.

LINEAR SERVO SYSTEM DURING COMPACT DISC PLAYBACK
The player employs a linear servo system in which any scratches or dirt are detected by a preceding beam. This allows jumping of playback due to dirt or scratches to be avoided.

WHEN TRANSPORTING THE PLAYER,
Transport the Player in CD Mode
When moving house etc., transport the player after first putting it into Compact Disc playback mode (so that the CDP indicator lights), and then switching off power.
If the Player is Not in CD Mode,
Insert a Compact Disc, and when the CDP indicator lights, eject and remove the disc.
Push the disc table back into the player, and after the PLAY indicator stops flashing, switch off the power.



After the PLAY indicator stops flashing, switch off the power.

DISCS

The CLD-901 can play both LaserVision discs and Compact Discs. Unlike conventional phonograph records, these discs are played back from the inside edge out.
LaserVision discs are available as both standard play discs and extended play discs. Discs with digitally recorded sound are also available.

STANDARD PLAY (CAV) DISC

Standard play discs are played at constant angular velocity (CAV). One frame is recorded for each revolution of the disc, and a 12-inch disc can contain up to 54,000 frames on one side (normal playing time 30 minutes). Still-frame/step frame, multi-speed, repeat, and other forms of trick playback are available with these discs.
With discs on which chapter numbers have been recorded, chapter skip and chapter program play etc. are possible.

EXTENDED PLAY (CLV) DISCS

These discs are recorded at a constant linear velocity (CLV). When the signal is recorded in this way, the number of frames that are recorded per revolution of the disc, increases as the recording advances towards the outer edge, so in comparison with standard play discs longer play is possible. (For normal playback of 12-inch discs, a maximum playback time is 1 hour is possible.)
Extended play discs cannot be used for trick playback, but search (random access) and repeat playback may be performed.
With discs on which chapter numbers have been recorded, chapter skip and chapter program play are also possible.

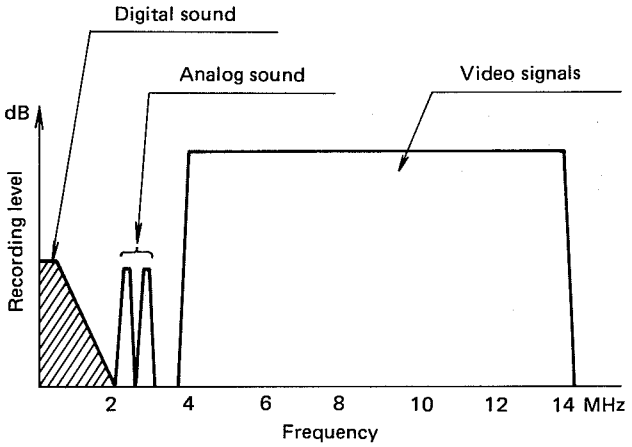
* The playback time varies according to the disc.

LASERVISION WITH DIGITAL SOUND DISCS

digital SOUND

The jackets and labels of these discs bear the symbol on the left.

In addition to the conventional analog sound signals, LaserVision with Digital Sound Discs also have recorded on them the same kind of pulse-code-modulated sound signals that are recorded on Compact Discs.
The high quality pictures of these LaserVision Discs, can be enjoyed together with digital sound, at the same time.
The two types of sound, digital and analog, are recorded onto the discs using different frequency bands, as shown in the figure.
For the sake of convenience, this book calls these sound signals "digital sound" and "analog sound"



Recording signal spectrum

CAUTION WHEN USING THE DISC

All rights reserved.
Unauthorized public performance, broadcasting or copying is a violation of applicable laws.

DISC HANDLING PRECAUTIONS

■ This player may be used with LaserVision Discs and Compact Discs bearing the following symbols:

(LaserVision Disc)

LaserVision

This is the standard LaserVision symbol.
The LaserVision symbol certifies compatibility with other laser optical products bearing the same symbol.

(Compact Disc)

COMPACT disc DIGITAL AUDIO

This player has been designed for use exclusively with the NTSC television system, and it cannot be used with television sets of other systems (such as PAL, or SECAM).
In addition, LaserVision Discs bearing the PAL or SECAM marks cannot be used with this player. Use only LaserVision Discs conforming to the NTSC system.

■ AS MUCH AS POSSIBLE, TRY NOT TO TOUCH THE SURFACE OF THE DISC

When holding discs, handle them as shown in the illustration, and try as much as possible not to touch their playing surfaces.
If the surfaces of the discs are scratched, it may cause track skipping if the scratches are severe.

How to hold the LaserVision Disc
Holding with both hands... Hold the disc by its edges with both hands, as shown in Fig. A.
Holding with one hand... As shown in Fig. B, hold the disc by its center hole and one edge.

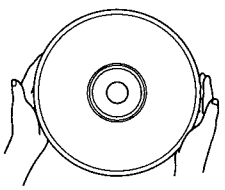


Fig. A

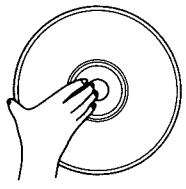


Fig. B

How to hold the Compact Disc
Hold the disc by its edges as shown in Fig. C

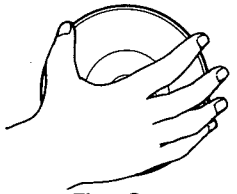


Fig. C

■ DO NOT USE DAMAGED DISCS

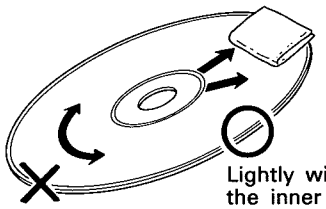
Discs rotate inside the player at high speeds. Do not use damaged (warped, cracked, etc.) discs. The player may be damaged as a result.

■ DO NOT AFFIX GUMMED SEALS TO THE DISC

Do not affix paper or gummed seals to the signal surface or label of a disc. Also be careful not to scratch the label surface of a Compact Disc.

■ BEFORE PLAYING, CLEAN YOUR DISCS

When fingerprints or other dirt are on the disc surface, this may cause a skipping, jumping, or sticking problem. Always be sure to clean your discs before playing them. Use a soft cloth with diluted neutral detergent to remove heavy dirt or fingerprints.
When cleaning, wipe away dust and dirt from the inner edge outward. Do not wipe around the disc.



Lightly wipe from the inner edge outward.

Do not wipe around the disc.

Do not use record cleaning sprays, or static prevention sprays etc. Also, do not use other types of cleaners, etc., containing benzene, thinner or other solvents.

■ KEEP YOUR PLAYER AWAY FROM HEAT

Do not place the player on top of the amplifier or any other unit that emits heat since heat may adversely affect the player and possible warp a loaded disc.
If the player is used with other audio equipment in the same rack, place it on the lowest shelf away from heat, and keep the area well ventilated.

TAKE GOOD CARE OF YOUR VALUABLE DISCS SO THAT YOU CAN ALWAYS ENJOY BEAUTIFUL PICTURE AND SOUND.

BEFORE OPERATION

INSTALLING THE PLAYER

- Choose a stable platform next to the television and stereo system with which you plan to use the player.
- When using the player with a stereo system, your speakers should be installed somewhat separated from your television (or TV monitor).
- Do not place your television (or TV monitor) on top of the player. Also do not place the player on top of your television (or TV monitor).

PROVIDE SUFFICIENT VENTILATION

Do not place the player on long pile carpet or on a bed or sofa etc., as this may result in ventilation holes becoming blocked. This would impair heat dissipation and could result in breakdown.
Also, do not place the player above an amplifier or other heat generating device. When putting the player in a rack together with other audio equipment, the player should be placed on a lower shelf than the amplifier (as low as possible so long as there is no dust build up problem), and should be used after ensuring good ventilation.

MOISTURE CONDENSATION

If the player is brought from cool surroundings into a warm room, or if the temperature of the room rises suddenly, condensation may form in the operating system and objective lens of the player. While condensation is present, it will not be possible for signals to be read out by the laser beam.
Depending on the degree of condensation, let the player stand for an hour or two in its new surroundings with the power switched on. When the player reaches room temperature, the condensation will evaporate, and playback will be possible.

The same symptoms of condensation may be caused during summer, if the player is exposed to the breeze from an air conditioner. In such cases change the location of the player.

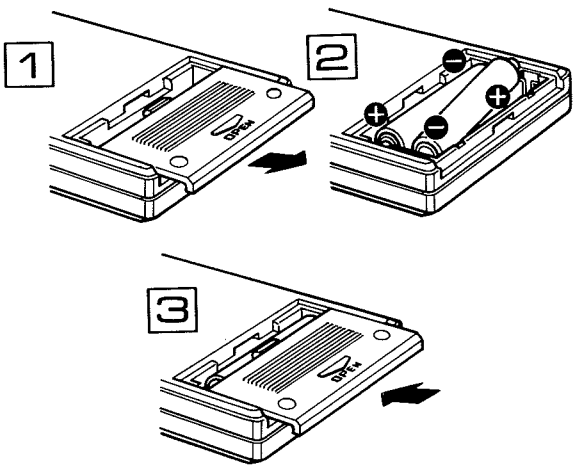
NOTE

If the player is switched on during reception of FM or AM broadcasts, the player may interfere with reception. When the player is not being used, please switch it off.
Also, if the player causes interference when a broadcast is being received with an indoor antenna, please adjust the direction of the antenna.

PUTTING BATTERIES INTO THE REMOTE CONTROL UNIT

1. Open the battery compartment cover on the rear of the remote control unit. The cover should open easily if you press on it with your thumb while sliding it in the direction of the arrow.
2. Take out the two accessory size "AAA" (IEC RO3) dry batteries, and insert them into the battery compartment in accordance with the indications in the compartment.
3. Close the cover of the battery case.

Incorrect use of batteries may lead to leakage or rupture. Always be sure to follow these guidelines:
A. Always insert batteries into the battery compartment correctly matching the positive (+) and negative (–) polarities, as shown by the display inside the compartment.
B. Never mix new and used batteries.
C. Batteries of the same size may have differing voltages, depending on brand. Do not mix different brands of batteries.
D. Both rechargeable and non-rechargeable batteries are available. Be sure to use your batteries in accordance with the caution labels affixed to them.



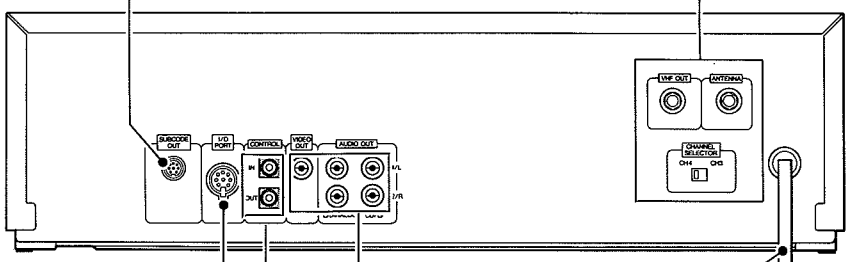
REAR PANEL FACILITIES

VHF OUT terminal (75 Ω F-type jack)
Connect this terminal to your TV set's VHF antenna terminal.

SUBCODE OUT terminal (round miniature connector)
This is an output terminal for subcodes recorded on Compact disc. (Provided for future applications.)

VHF CHANNEL SELECTOR (CH3/CH4)
This switch is for switching the internal VHF converter. Set to the channel which is not used for TV broadcasts in your area.

ANTENNA terminal (75 Ω F-type jack)
Connect the coaxial cable (75 Ω) from the VHF TV antenna to this terminal.



For the VOLTAGE SELECTOR, refer to page 1.

I/O PORT (U-shape 8-pin DIN connector)
This is the input/output port used when performing external control of the player.

CONTROL IN and OUT terminals (miniature phone jack)
These terminals are for communication of control codes, when the player is used together with other Pioneer products with the Pioneer SR mark.

VIDEO OUT terminal (RCA jack)
Connect this jack to a TV monitor or a TV set which is provided with a video input terminal.

LV (ANALOG) AUDIO OUT terminals (RCA jacks)
These terminals output the analog audio only of LaserVision Discs. Connect them to the AUX input terminals etc. of your stereo amplifier.
Do not connect these terminals to your amplifier PHONO input.
These terminals do not output the digital sound from Compact Discs or LaserVision with Digital Sound Discs.

CD/LV AUDIO OUT terminals (RCA jacks)
These terminals output Compact Disc audio, LaserVision Disc audio (analog) and the audio for LaserVision with Digital Sound Discs. Selection of either digital or analog sound can be made by operating a button on the front panel.
Connect these terminals to the CD or AUX input terminals etc. of your stereo amplifier.
Do not connect them to your amplifier PHONO input.

Power cord
Connect this to a power outlet.

ABOUT THE AUDIO OUTPUT TERMINALS

This player is equipped with two sets of audio output terminals.
As shown in the table below, the CD/LV terminals are able to output all the audio signals that can be played back by the player.

Type of Disc	Playback Sound	Output Terminals
Compact Disc	Digital	CD/LV
LaserVision with Digital Sound Discs (Discs with the digital SOUND mark)	Digital	CD/LV ← Can be selected with the LVP AUDIO button on the front panel.
	Analog	CD/LV ← LV(Analog)
LaserVision Discs (Discs without the digital SOUND mark)	Analog	CD/LV LV(ANALOG)

For ordinary operation, connect the CD/LV terminals to your amplifier.
The LV (ANALOG) terminals are provided for developmental use. They do not need to be used for ordinary operation.
For details regarding selection of either digital sound or analog sound when playing back LaserVision with Digital Sound Discs, please refer to page 19 "AUDIO REPRODUCTION".

NOTE:

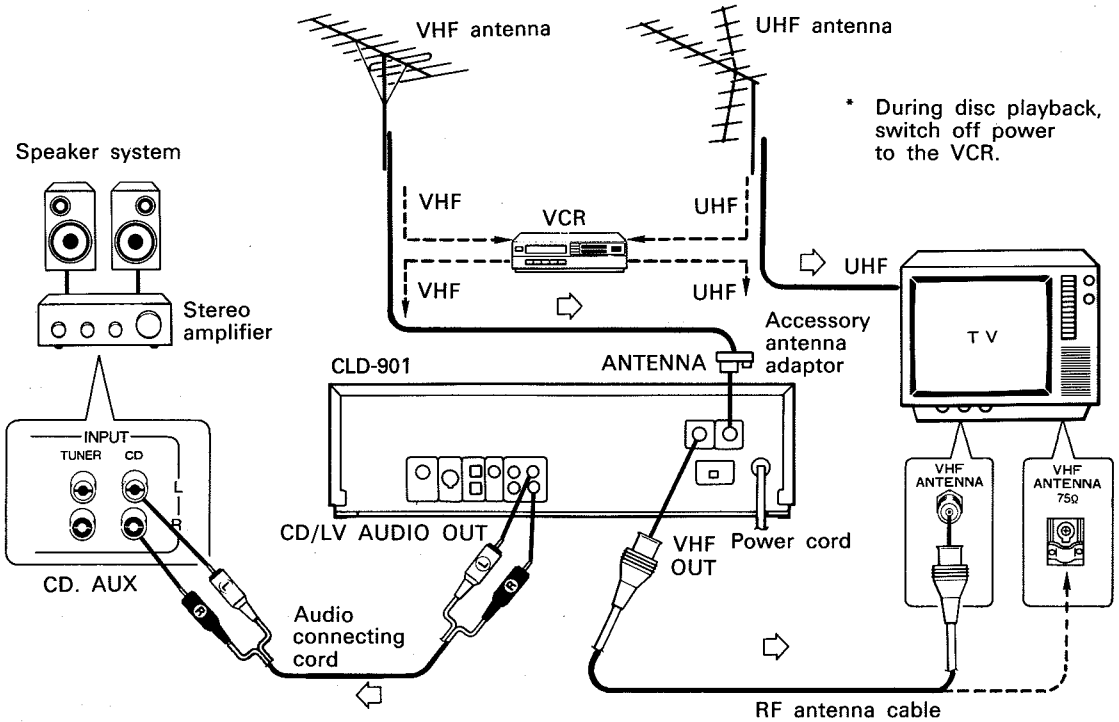
The sound output from the VHF output terminal is analog sound. When a TV set is connected to the VHF output terminal, it cannot be used to listen to Compact Disc sound, or to the digitally recorded sound on LaserVision with Digital Sound Discs.

CONNECTIONS

BASIC COMBINATION

CLD-901 + TV set + Stereo system + (VCR)

When making connections, switch off power to the player and other units to be connected, and remove the plugs of each unit from the power outlets. Switch on power after connections have been made.



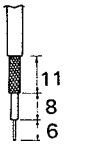
1. VHF TV ANTENNA CONNECTION

Detach the VHF antenna cable from the VHF antenna terminal on your TV set, and connect the cable to the ANTENNA terminal on the player.
If the end of the cable does not match the ANTENNA terminal, attach the accessory antenna adaptor.

Mounting the antenna adaptor

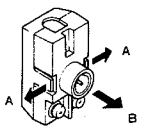
<With a 75 Ω coaxial cable>

① **Prepare the end of the cable.**



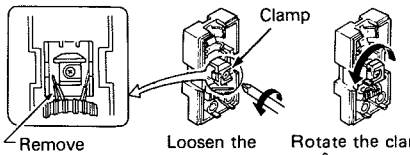
Unit: mm

② **Remove the cover.**



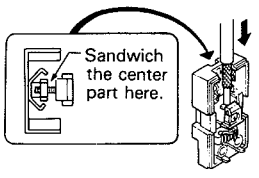
Open the tabs in the direction of (A) and pull in the direction of (B).

③ **Loosen the clamp screw and rotate 180°degrees. (Remove the lead wire held by the clamp.)**



Remove this wire. Loosen the screw. Rotate the clamp 180° degrees.

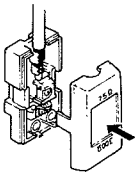
④ **Attach the coaxial cable.**



Clamp with pliers.

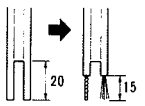
Tighten up the screw after having secured the cable.

⑤ **Replace the cover.**



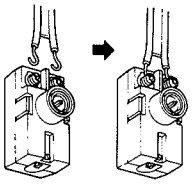
<With a 300 Ω parallel feeder>

① **Prepare the end of the feeder.**



Unit: mm

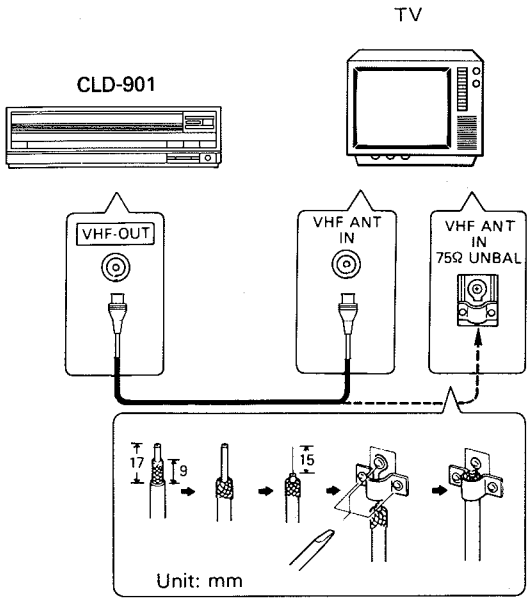
② **Attach the cable to the 300 Ω terminal.**



Loosen the screw, clamp the feeder cable and tighten up the screw.

2. CONNECTING TO YOUR TV SET

Connect the VHF OUT terminal of the player to the 75 Ω VHF antenna terminal of your TV set with the accessory RF antenna cable. If the VHF antenna terminal of your TV set is not an F type terminal, modify one end of the cable.



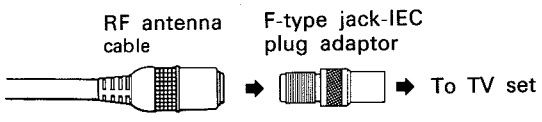
75 Ω coaxial cable preparation

1. Strip the end of the cable as shown in step 1.
2. Prepare the end as shown in steps 2 and 3.
3. Loosen the three screws and insert the cable.
4. Tighten the three screws firmly.

NOTE:

- *Push the plug in firmly. If the plug is not properly pushed in, this may result in snow on the screen or noise.*
- *The shape of the VHF antenna input terminal and the method of connecting the antenna cable may differ from one TV set to another. For details please refer to your TV instruction manual.*
- *The sound output from the VHF OUT terminal is Laser-Vision Disc analog sound. This terminal does not allow the playback of digital sound or Compact Disc sound.*

If the VHF antenna input terminal of your TV set is an IEC terminal, install the accessory F-type jack-IEC plug adaptor to one end of the RF antenna cable and connect it to the TV set.



3. SET THE CHANNEL SELECTOR SWITCH

If channel 3 is not being used for broadcasts in your area, set the channel selector switch to the channel 3 side, or if channel 4 is not being used, set the switch to the channel 4 side. The setting you choose will be the disc playback channel.

4. CONNECTING TO YOUR STEREO AMPLIFIER

Connect the CD/LV audio output terminals of the player to the AUX or CD input terminals etc. of your stereo amplifier.

NOTE:

- *Do not connect these terminals to your amplifier PHONO input terminals.*
- *The LV (ANALOG) audio output terminals do not output the digital sound from Compact Discs or LaserVision with Digital Sound Discs.*

5. PLUG THE POWER CORDS INTO AC OUTLET

Plug the AC power cords of the player, stereo amplifier and TV set into an AC outlet.

Please check that the VOLTAGE SELECTOR is set properly.

WHEN USING A TV MONITOR (OR A TV SET WITH VIDEO AND AUDIO INPUT TERMINALS)

Connect the VIDEO OUT terminal of the player to the video input terminal of the TV monitor (or TV set). Connect the CD/LV audio output terminals of the player to the AUX or CD terminals etc., of your stereo amplifier.

WHEN COMBINED WITH OPTIONAL PIONEER COMPONENT DISPLAY,

Connect the VIDEO OUT terminal of the player to the video input terminal of the component display, and connect the CD/LV audio output terminals of the player to the audio input terminals of the component display.

(System Control)

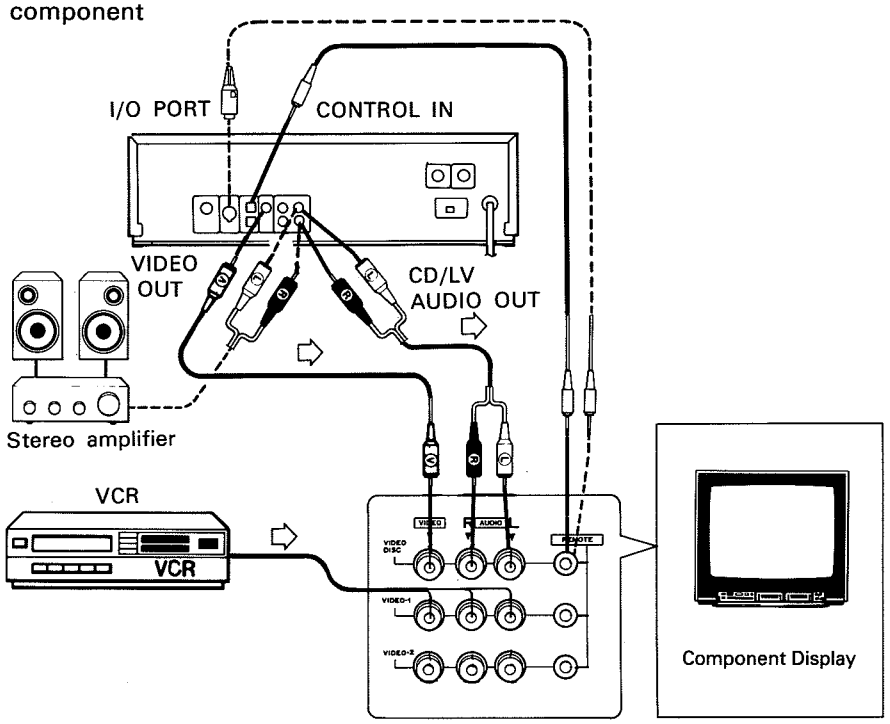
By connecting the control input terminal or the I/O port of the player to the remote terminal of the component display, the system can be controlled by aiming the remote control unit of the player at the remote control receiver of the component display.

- To use the CONTROL input terminal, make use of a miniature phone plug cord.
- To use the I/O PORT, prepare a 8-pin U-shaped DIN plug ⟷ mini-plug cord.

Please refer to the Auto start function on page 16.

Please also refer to the operating instructions for the component display.

NOTE:
When system control connections have been made, the player can not be directly controlled by the remote control unit. To operate the player, aim the remote control unit at the component display.



WHEN CARRYING OUT SYSTEM CONTROL WHEN THE PLAYER IS COMBINED WITH A PRODUCT WITH THE PIONEER SR MARK,

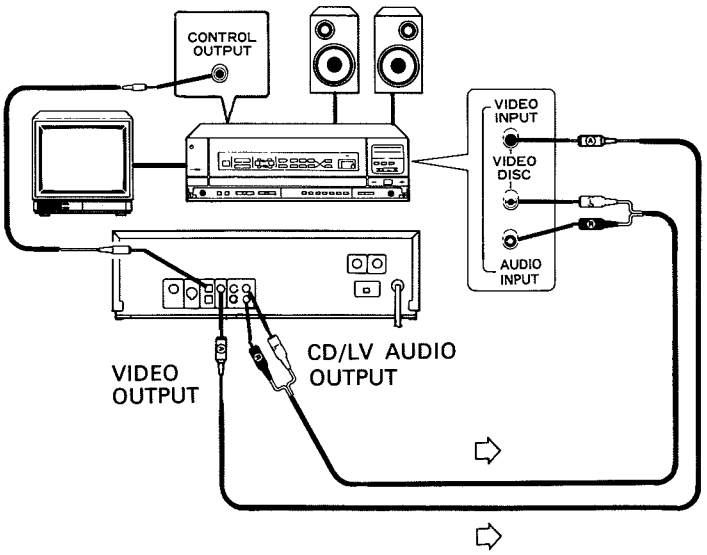
When the player is combined with an AV master amplifier (optional), which can provide centralized control of Pioneer products with the SR mark, system control can be carried out.

Connect the VIDEO OUT terminal of the player to the video disc video input terminal of the stereo amplifier, and connect the CD/LV audio output terminals of the player to the audio input terminals of the amplifier.

Connect the control output terminal of the amplifier to the CONTROL input terminal of the player, using a miniature phone plug ⟷ miniature phone plug connecting cord.

For details concerning method of connection and operation, please refer to the operating instructions for your amplifier.

NOTE:
When a connecting cord has been connected to the CONTROL input terminal, direct control of the player with the remote control unit is not possible. Operate the player with the remote control unit by aiming it at the AV master amplifier.



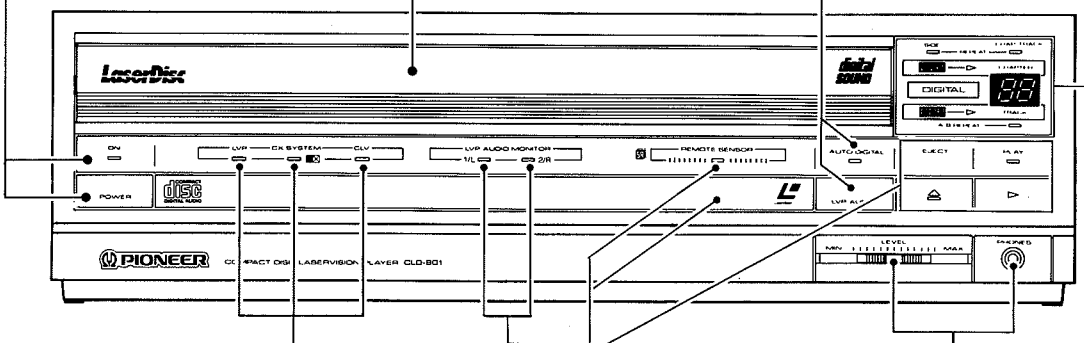
PANEL AND REMOTE CONTROL UNIT FACILITIES

[PLAYER FRONT PANEL]

DOOR
When power is switched on, and EJECT button is pressed, the door opens downward, and at the same time, the disc table is expelled outward a specified distance.

POWER button and indicator

LASERVISION DISC DIGITAL SOUND SELECTION (LVP AUDIO) button and AUTO DIGITAL indicator
When playing back a LaserVision with Digital Sound Disc, light the AUTO DIGITAL indicator with this button. (Lights after switching on power.)
In the case of a LaserVision with Digital Sound Disc, DIGITAL indicator lights automatically, and the digitally recorded sound is output from the CD/LV audio output terminals on the rear panel.



LVP indicator
This indicates whether the pictures on the TV connected to the rear panel VHF OUT terminal, are being played back from the disc or received from the TV broadcasting station.
ON : LaserVision Disc or Compact Disc playback
OFF : VHF TV broadcast reception
After switching on power the indicator is ON, indicating selection of disc playback.

CX SYSTEM indicator
(For LaserVision Disc playback only)
Lights when the CX noise reduction system is operating.

EXTENDED PLAY (CLV) DISC indicator
(For LaserVision Disc playback only)
This lights up when an extended play (CLV) disc is being played.

LVP AUDIO MONITOR indicators
(For LaserVision Disc playback only)
These indicate the audio channels being played back. When power is switched on, both 1/L and 2/R light up, indicating stereo mode.

REMOTE SENSOR and indicator
To operate the player using the remote control unit, aim it at this remote sensor. When the sensor receives a command from the remote control unit, the indicator lights.

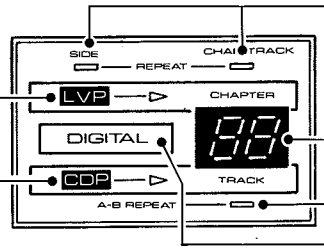
PHONES jack and LEVEL control
Headphones equipped with a stereo miniature phone plug can be plugged in here, for headphones enjoyment of playback sound. (The sound is the same as from the CD/LV output terminals.)
Please use headphones with an impedance of 8 Ω or more.

EJECT button
This is used when you want to insert or eject a disc. When this button is pressed, the door opens, and the disc table emerges a specified distance.

PLAY button
This button is used:
- To start playback when the disc is stopped.
- To return to play mode when the player is in a mode other than play mode (pause mode etc.)
- To start chapter program playback (LaserVision Disc) and track program playback (Compact Disc).

PLAY indicator
Lights during playback in the play mode (PLAY). Also, at the beginning of playback or during a search operation etc., it may take a short while for the command to be executed after the button has been pressed. In such cases the PLAY indicator will flash until the command is executed (STAND-BY).

[INDICATOR SECTION]



SIDE REPEAT indicator
Lights when repeat play of one side of a disc is selected.

CHAP./TRACK REPEAT indicator
- During playback of a LaserVision Disc, lights when chapter repeat playback is selected.
- During playback of a Compact Disc, lights when track repeat playback is selected.

A-B REPEAT indicator
Lights when repeat play of an interval between two points A and B is selected.

LASERVISION DISC (LVP) indicator
Lights during LaserVision Disc playback mode.

COMPACT DISC (CDP) indicator
Lights during Compact Disc playback mode.

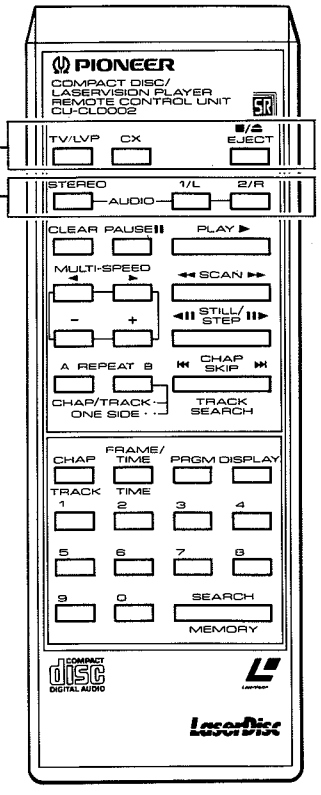
Numeric display
- When playing back a LaserVision Disc, displays the "chapter" number presently being played back.
- When playing back a Compact Disc, displays the "track" number presently being played back.

DIGITAL indicator
Lights at the following times to indicate that audio signal output from the CD/LV audio terminal on the rear panel is digitally recorded sound:
- During Compact Disc playback
- During playback of a LaserVision with Digital Sound Disc, when the AUTO DIGITAL indicator is made to light.

[REMOTE CONTROL UNIT]

The accessory remote control unit can be used during playback of both LaserVision discs and Compact Discs.
- The functions shown in black are used for LaserVision Discs only.
- The functions shown in green are used for Compact Discs only.
  Keys appearing in other colors have the same functions for both kinds of disc.

WHEN PLAYING BACK LASERVISION DISCS

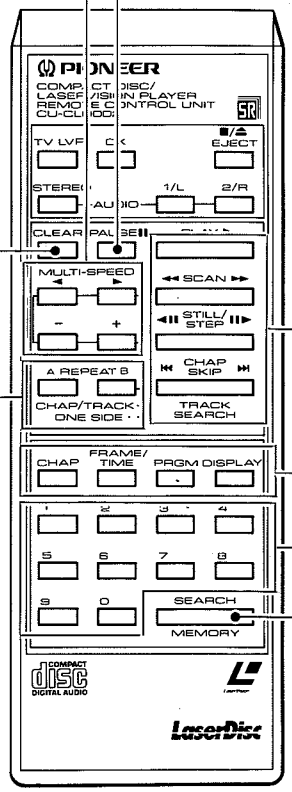


EJECT (■/▲) key
This is used to stop playback or to remove the disc. (See "TO STOP PLAYBACK".)

CX key
This is the on/off key for the CX noise reduction system.

TV/LVP key
When the VHF antenna is connected to the TV set via the player, this key switches between LaserVision playback and VHF TV broadcast reception.

AUDIO keys
These are for selecting the sound channels.



CLEAR key
Use this key in the following cases:
- To cancel repeat between two points A and B, chapter repeat or side repeat playback mode.
- To correct the number entered during search operation, or to cancel the search mode.
- To cancel chapter program play, or to clear the program.

MULTI-SPEED (◄,►) and speed selection (−, +) keys
These are used for multi-speed playback.

PAUSE (▮▮) key
When this is pressed, the playback is temporarily interrupted. To release the pause mode press the PAUSE key again.

PLAY (►) key
This has the same function as the PLAY button on the front panel of the player.

SCAN (◄◄ , ►►) key
This is used for fast forward and fast backward playback.

STILL/STEP (◄▮▮, ▮▮►) key
This is used for still frame playback, and for stepping through frames.

CHAP.SKIP (⏮, ⏭) key
This is used for chapter skip operations.

CHAP key
This is used for chapter number search.

FRAME/TIME key
This is used when performing a frame number or time number search.

PRGM key
This is used for chapter program play.

DISPLAY key
This is used to display or erase chapter or frame/time numbers on the TV screen.

DIGIT (0 - 9) keys

SEARCH/MEMORY key
This is used for:
- Execution of search operation.
- For memory repeat operation.
- For chapter program operation.

REPEAT (A, B) keys
These are used for repeat playback.

WHEN PLAYING BACK COMPACT DISCS

EJECT (■/▲) key

SCAN (◄◄, ►►) key

PLAY (►) key

TRACK SEARCH key
This is used to find the start of a track (tune).

TV/LVP key
When the VHF antenna is connected to the TV set via the player, this key switches between compact disc playback information display and VHF TV broadcast reception.

PAUSE (❚❚) key

CLEAR key
Use this key in the following cases:
- To cancel repeat playback between two points A-B, track (1 tune) repeat, or side (all tunes) repeat playback mode.
- To correct the number entered during search operation, or to cancel the search mode.
- To cancel track program play, or to clear the program.

REPEAT (A, B) keys
These are used for repeat playback.

TRACK key
This is used for track number search.

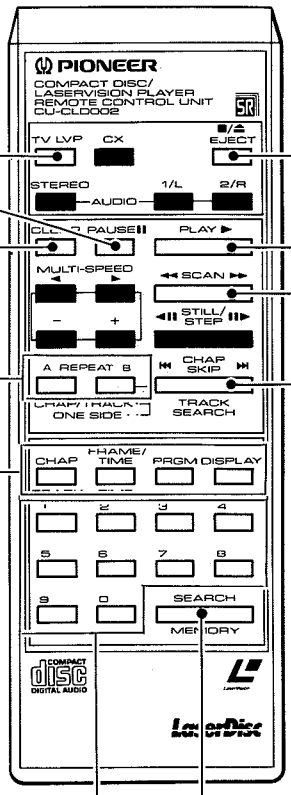
TIME key
This is used when performing a time search.

PRGM key
This is used for track program play.

DISPLAY key
During Compact Disc playback, this is used to display or erase playback information on the TV screen.

DIGIT (0 - 9) keys

SEARCH/MEMORY key
This is used for:
- Execution of search operation.
- For memory repeat operation.
- For track program operation.



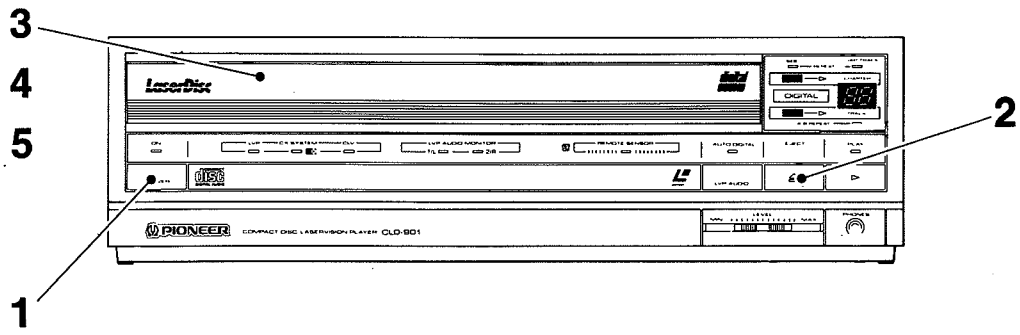
The keys shown in black cannot be used during Compact Disc playback.

BASIC OPERATION (FOR PLAYBACK OF LASERVISION DISCS AND COMPACT DISCS)

BEFORE BEGINNING PLAYBACK, BEWARE OF EXCESSIVE INPUT.

A characteristic of the digital sound recorded on Compact discs and LaserVision with Digital Sound Discs, is a very low noise level combined with a very large dynamic range.
As a result, be extremely careful when playing back these discs and adjust the sound volume properly in order to prevent damage to your speakers from an excessive input.

TO BEGIN PLAYBACK

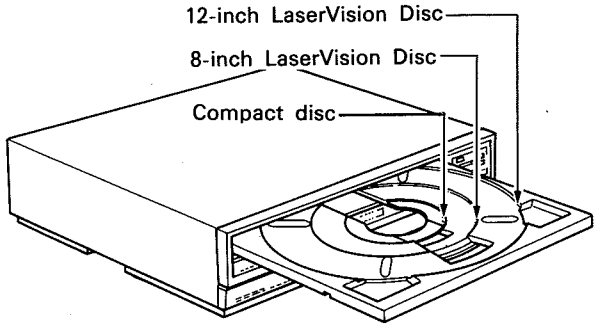


[Preparations]

- **Turn on your television, and set it to a channel (3 or 4) which is not being used for broadcasting.**
  (When using a TV set with a video input terminal, select video input.)
  When using a TV monitor, switch on power to the TV monitor.
- **Switch on power to your stereo system.**

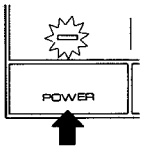
ABOUT THE SHAPE OF THE DISC TABLE

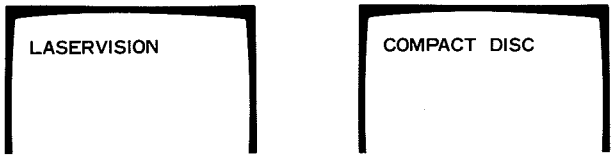
The CLD-901 can play 12-inch diameter LaserVision Discs, 8-inch diameter LaserVision Discs and Compact Discs, so can play discs of three different sizes. When setting each size of disc, set the disc so that the edge is properly aligned with the appropriate guides shown in the figure.



1. Turn on the player.

- The power (ON), LVP, LVP AUDIO MONITOR (1/L, 2/R), and AUTO DIGITAL indicators will light.
  The numeric display will show 0, and either the LVP or the CDP indicator (depending on the previously played disc) will light.
- The screen of the TV set or TV monitor will turn blue, and the message "LASERVISION" or "COMPACT DISC" will appear. (This will be in accordance with the previously played disc.)





2. Press the EJECT button.

- The door will open, and the disc table will emerge a specified distance. The disc table will not open or close if power is not turned on.

3. Pull out the disc table.

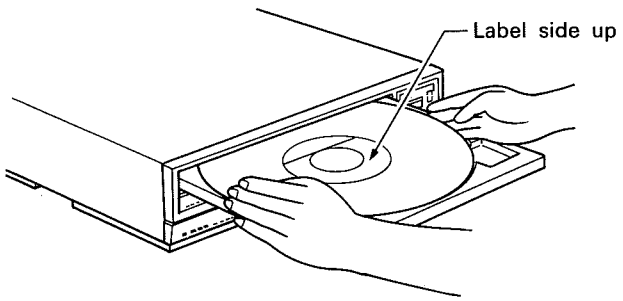
- Slowly pull out the disc table.

4. Load the disc

■ Whether a LaserVision Disc or Compact Disc, be sure to load the disc so that the label of the side you wish to play is facing up, in the same way as for an audio record.

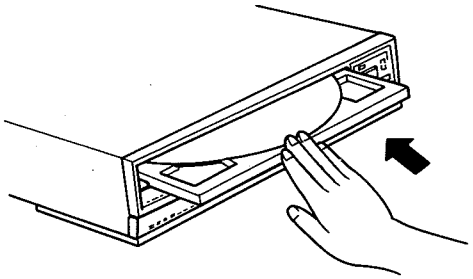
NOTE:

- *Only one disc can be loaded as any one time. Loading a LaserVision Disc and a Compact Disc on top of one another may result in breakdown, or in scratching of the discs. Please only load one disc at a time.*
- *If fingerprints or dirt adheres to the playback surface of the disc, the video and audio quality will be impaired. Before loading a disc, clean the disc's bottom surface if it is dirty (this is the opposite side to the label side, but it is the side with the signal which will be played back).*



5. Push in the disc table

■ Slowly push in the disc table until it is automatically pulled in.

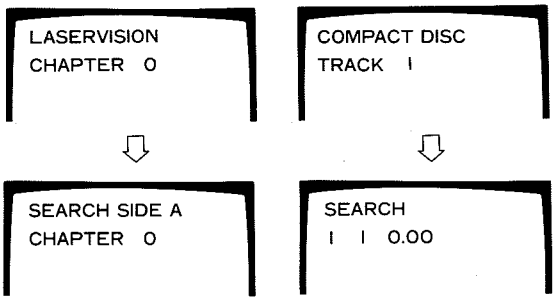


AUTOMATIC START FUNCTION

When the disc table on which the disc has been loaded is pulled in, playback start automatically.

The PLAY indicator will begin flashing and the message "LASERVISION" or "COMPACT DISC" (depending on the disc which has been loaded) will be displayed and flash on the screen.
When the disc reaches the specified speed of rotation, the player will search for and begin playback from the beginning of the disc, and the PLAY indicator will light steadily.

In the case of a LaserVision Disc, the word "SIDE" will also be displayed on the screen. (In the case of some discs, "SIDE" will not be displayed.)



NOTE:

- *When external control is applied using the I/O PORT on the rear panel, neither automatic start function nor blue screen with indication will occur.*
- *To push the disc table back in immediately after it has been expelled to the specified distance, will require more force than pushing it back in after pulling it out. This is a safety feature and is not a fault. The disc table can be made to go back smoothly if it is first pulled out a little and then pushed lightly.*

CAUTION

- *Do not place anything on the disc table other than a disc.*
- *Do not open the door with your hands during playback.*
- *Do not tilt or lift up the player during playback, as this could result in damage to the disc. If you need to move the player, first take out the disc, switch off the power, and remove the plug from the power outlet.*
- *If the picture is not clear, adjust the fine tuning of your TV set.*

PLAYBACK OF DIGITAL SOUND

When playback of a Compact Disc begins, the [DIGITAL] indicator lights.
To play back digital sound from a LaserVision with Digital Sound Disc, press the LVP AUDIO button so as to make the AUTO DIGITAL indicator light. The [DIGITAL] indicator will also light.

- The AUTO DIGITAL indicator lights when power is turned on.
- For details refer to page 19 "AUDIO REPRODUCTION".

TO STOP PLAYBACK

When one side of a disc is played to the end, playback automatically stops and the disc stops rotating.
To stop playback part way through a disc, proceed as follows.

1. **Press the EJECT button on the player, or the EJECT key (■/⏏) on the remote control unit.**
   - ■ When the EJECT button on the player is pressed, the disc stops rotating, and the disc table emerges.
   - ■ When the EJECT key on the remote control unit is:
     Pressed once : The disc stops rotating.
     Pressed twice : The disc stops rotating and the disc table emerges.
2. **Pull out the disc table**
3. **Remove the disc**
   Return the disc to its jacket or case, and store it vertically.
4. **Push in the disc table**
   Do not leave the disc table in the pulled out position.
   If a strong force is applied to the disc table while it is pulled out, the disc table may be damaged.
   Also depending on the place of installation, there is a danger of the player falling over. Except when inserting or removing a disc, keep the disc table pushed into the player.
5. **Wait several seconds and then turn off the power.**

TV CHANNEL ADJUSTMENT (WHEN THE PICTURE IS NOT CLEAR)

Confirm that the channel selector switch on the rear panel of the player, is set to the same channel as the channel used for disc playback,

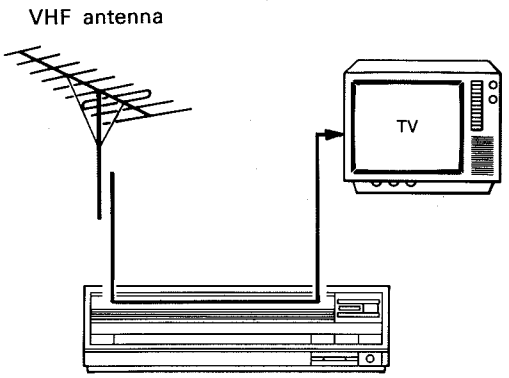
1. **Set your TV set to the channel (3 or 4) used for disc playback.**
2. **Start disc playback.**
3. **Adjust the fine tuning of your TV set so that a clear picture is obtained.**

(The method of fine tuning differs from one TV set to another. Please refer to the operating instructions for your TV set.)
WHEN STRIPES OR NOISES APPEAR ON THE SCREEN, PLEASE KEEP VHF ANTENNA CABLE AWAY FROM POWER CORD.

TO WATCH A TV BROADCAST

When a VHF TV antenna has been connected to your TV via the player's ANTENNA terminal, in accordance with the connection example given in these instructions (page 8), TV broadcasts can be received normally by proceeding in one of the following two ways:

- **By switching off power to the player**
  Before switching off power, first perform the steps in "TO STOP PLAYBACK", and stop disc playback.
- **By making the LVP indicator on the front panel turn off. (Use the TV/LVP key on the remote control unit.)**
  In either case, the signals from the VHF antenna are fed to the TV set via the player.



Press the TV/LVP key on the remote control unit so as to make the indicator turn off, or turn off power.

NOTE:
In an area where the TV broadcast signal is weak, slanting stripes may appear on the TV screen when the TV/LVP key is pressed to receive a TV broadcast. However this does not indicate a fault, and the stripes can be eliminated by turning off power to the player.
In such cases, or when you wish to watch TV for long periods of time, we recommend that you turn off the power switch of the player.

WHEN USING A TV SET WITH VIDEO AND AUDIO INPUT TERMINALS

When using the video input terminal of your TV, switch to the broadcast using the controls of your TV.

REMOTE CONTROL OPERATIONS

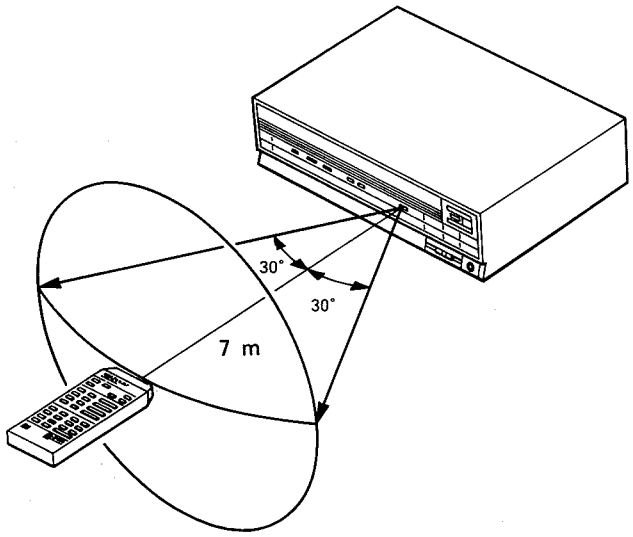
The accessory remote control unit can be used during playback of both LaserVision Discs and Compact Discs.

- The functions shown in black are used for LaserVision Discs only.
- The functions shown in green are used for Compact Discs only.

Keys appearing in other colors have the same functions for both kinds of disc.

The keys on the remote control unit for SCAN, STILL/STEP, CHAP.SKIP, and TRACK SEARCH are rocker type switches. They do not operate if pushed at the center.

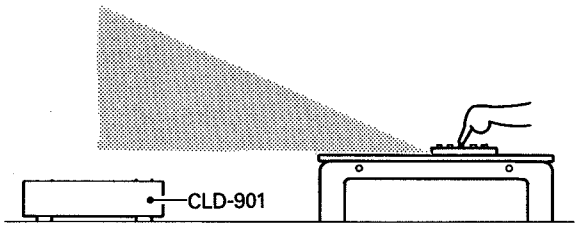
When operating the remote control unit, point the infrared signal transmitter part of the unit at the remote control receiver (REMOTE SENSOR) on the front panel of the player. The remote control unit may be used within a range of about 7 meters from the remote sensor, within angles of up to about 30 degrees. When a command from the remote control unit is received by the player, the indicator on the front panel lights.



NOTE:
If a plug is connected to either the CONTROL input terminal or the I/O PORT on the rear panel of the player, pointing the remote control unit at the REMOTE SENSOR will not enable remote control operation. For remote control operation please point the unit at the remote sensor of either the AV master amplifier or component display which is connected to the player.

NOTE FOR USING THE REMOTE CONTROL UNIT

- *If there is any obstacle between the remote control unit and the player, or if the unit is held at too large an angle relative to the front panel of the player, the signal from the remote control unit may fail to reach the remote sensor.*



- *If the player is operating in the vicinity of other appliances generating infrared rays, or if other remote control devices using infrared rays are used near the player, the player may operate improperly. Conversely, if the player's remote control unit is operated in the vicinity of other appliances which use an infrared remote control device, the other appliance may operate improperly. If this should happen, change the place of installation so that improper operation does not occur.*
- *If the range of operation of the remote control unit becomes too short, replace the batteries.*
- *When the unit is not to be used for a long period of time (more than one month), remove the batteries to prevent them from leaking inside the compartment. If leakage occurs, wipe up the liquid inside the compartment and replace the batteries with new ones.*
- *Do not place books or other objects on the remote control unit, since they might depress the buttons and run down the batteries.*

LASERVISION DISC PLAYBACK FUNCTIONS

AUDIO REPRODUCTION

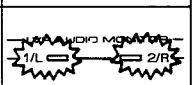
PLAYBACK OF STEREO DISCS

When power is turned on, the player goes into stereo playback mode (the 1/L and 2/L LVP AUDIO MONITOR indicators both light), and disc playback is performed in this mode.
If either of the 1/L or 2/R indicators is off, press the AUDIO STEREO key on the remote control unit to make both indicators light.
The sound played back via a TV set connected to the VHF output terminal, is not stereo even if a stereo disc is played.

PLAYBACK OF BILINGUAL DISCS

To listen to only one channel of a bilingual disc etc., press either the 1/L or 2/R AUDIO key corresponding to the channel you wish to hear. The indicator of the channel which is selected will remain lit, while the indicator for the other channel will go out.
Sound is only output during normal playback. Sound is not output during still, scan, or multi-speed playback modes.

SOUND SELECTION WITH THE AUDIO KEY (Selection is only possible for analog sound.)

AUDIO Keys	VHF Output Signal	Audio Output Terminal		Indicators on Player
		1/L	2/R	
STEREO	Mixture of 1/L and 2/R	1/L	2/R	
1/L	1/L	1/L	1/L	
2/R	2/R	2/R	2/R	

* When digital sound is output from the CD/LV audio output terminals, selection with the AUDIO keys is not possible. (Selection is only possible for sound output from the LV (ANALOG) audio output terminals.)
* The sound output from the VHF output terminal is analog sound.

PLAYBACK OF DISCS WITH THE CX MARK

Discs with the CX mark, are played with the CX SYSTEM indicator on the front panel lit. (Refer to page 20 "CX SYSTEM".)

PLAYBACK OF DIGITAL SOUND DISCS

When LaserVision with Digital Sound Discs are played back with the AUTO DIGITAL indicator on the front panel lit, digitally recorded sound is output from the CD/LV audio output terminals.

[When power is turned on, the AUTO DIGITAL indicator is on (lit up).]

At this time the [DIGITAL] indicator lights to show that digital sound is being output.
When the AUTO DIGITAL indicator is not lit, the output from the CD/LV audio output terminals is analog sound.

When digital sound is being output from the CD/LV audio output terminals, sound channel selection using the AUDIO keys is not possible (the output is always stereo mode).

During disc playback, the sound output from the LV (ANALOG) audio output terminals, is always analog sound.

PLAYER INDICATOR DISPLAYS AND OUTPUT OF SOUND FROM THE AUDIO OUTPUT TERMINALS

	Indicators on Player		Output Sound	
	AUTO DIGITAL	DIGITAL (Automatically lights)	CD/LV Terminals	LV (ANALOG) Terminals
Discs with the digital SOUND mark	Lit	Lit	Digital	Always outputs analog sound
	Not lit	Not lit	Analog	
Discs without the digital SOUND mark	Lit	Not lit	Analog	
	Not lit	Not lit	Analog	

FOR BILINGUAL DIGITAL SOUND DISCS

Digital sound is always output through both 1/L and 2/R (STEREO mode).
The audio channel cannot be switched over by remote control key operation.
After pressing the LVP AUDIO button on the front panel, the AUTO DIGITAL indicator will go out. After switching over to analog sound, select the audio by channel the remote control unit's audio monitor keys.

CX SYSTEM

(The CX SYSTEM key is effective only for analog sound)

When playing back discs with the CX mark, press the CX key so as to turn on the CX SYSTEM (so that the CX SYSTEM indicator lights).

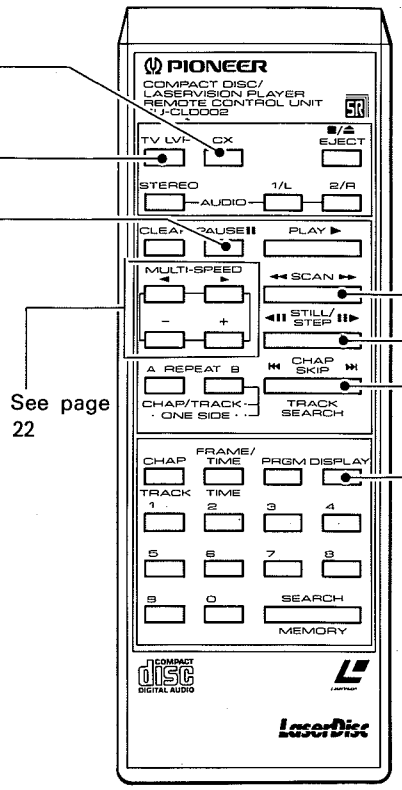
The CX SYSTEM can increase the sound signal to noise ratio, and increase the dynamic range.

Some discs have codes recorded on them which switch the CX system on and off automatically. When these discs are played back, switching of the CX system is carried out automatically. Also, once automatic switching has been carried out, switching with the CX key cannot be performed until the disc is removed (until the disc table lock is released).

When the CX SYSTEM indicator does not light when playback of a disc with the CX mark begins, this indicates that the disc does not perform CX switching automatically. Please press the CX key on the remote control unit, so as to make the CX SYSTEM indicator light.

CX is a trademark of CBS Inc.
This player meets the CX EXPANDING SPECIFICATION.

NOTE:
When playing back a disc without the CX mark, always switch the CX system off. If a disc without the CX mark is played back with the CX system on, the sound will not play back naturally.



See next page
See next page
See page 22
See page 22

TV/LVP

Selects between disc playback and TV reception. Please confirm by looking at the LVP indicator on the front panel.

(Refer to page 17 "TO WATCH A TV BROADCAST".)

LVP indicator lit : Disc playback

LVP indicator not lit : Reception of TV broadcast

This key switches the output from the VHF output terminal on the rear panel.

When using the video and audio output terminals, please select using the video selector switch on the TV set.

PAUSE

Pressing this key causes the video and sound to disappear, and temporary interruption of playback. The screen becomes blue, and an indication appears of the side being played back ("SIDE A" or "SIDE B") and the word "PAUSE" appears. Pressing the key again causes playback to resume from the point of interruption. (In the case of some discs the "SIDE" indication does not appear.)

PAUSE
SIDE A

□ □□□□□ PAUSE
SIDE A

(When chapter and frame/time are displayed)

NOTE:

- *When the PAUSE key is pressed during search operation, the player pauses when the search ends.*
- *When the pause mode is cancelled when playing an extended play disc, the point from which playback resumes may differ slightly from the point where playback was interrupted.*

CHAPTER NUMBER AND FRAME/TIME NUMBER DISPLAY

LaserVision Discs have chapter numbers, frame numbers (or time numbers) recorded on them, at the time when the video and sound are recorded.
Each time the DISPLAY key is pressed, this information is alternately displayed and erased on the screen.

Chapter numbers (Standard play and Extended play discs)

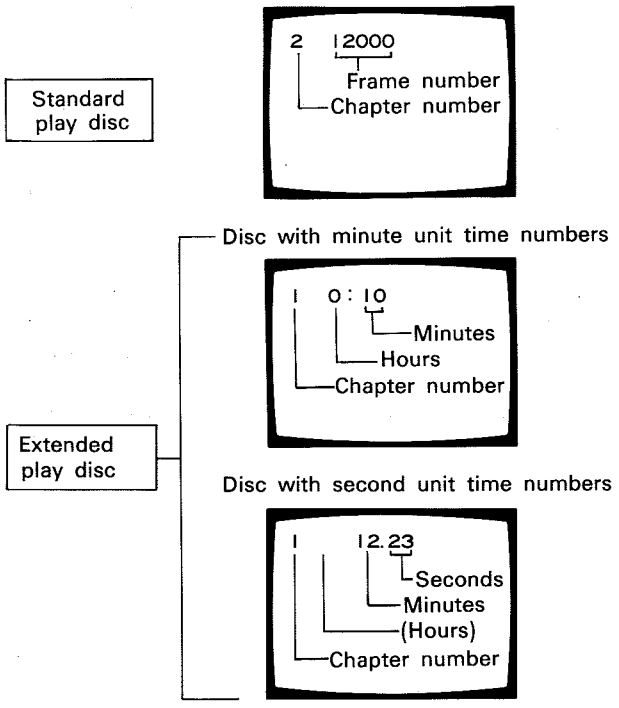
These indicate divisions within a disc program, and correspond to the chapter numbers in a book.
Some discs do not have chapter numbers recorded on them. In the case of such discs, chapter numbers are not displayed.

Frame numbers (Standard play discs)

Frame numbers are allocated one by one to each frame from the start of the disc program. These correspond to the page numbers in a book.

Time numbers (Extended play discs)

These represent the elapsed time from the start of the disc for normal playback mode.
In the case of some discs time numbers are recorded with minutes as the smallest units, while with other discs, the time numbers are recorded with seconds as the smallest units.



SCAN

After playback has begun, while in pressing either end of this key causes fast forward or fast backward playback.
►► : Fast forward ◄◄ : Fast backward
The scan speed may be one of two speeds. For about two seconds after the key is pressed, the scan speed is fairly slow, but after that becomes high speed.

STILL/STEP (Standard play discs only)

Pressing either end of this key causes still frame playback. Following this, each press of the II► mark end of the key causes playback to advance one frame, and each press of the ◄II mark end of the key causes playback to reverse one frame.
To cancel still frame playback, press the PLAY (►) key.

* **In the case of rapidly changing scenes, it may not be possible to obtain completely still frames. This is not a fault of the player or disc.**

AUTOMATIC PICTURE STOP

Some discs have special signals recorded on them called picture stop codes. When such discs are played at either normal speed or in multi-speed (with the exception of double and triple speed) mode, the player automatically stops at the frames specified by the picture stop codes, and plays back a still frame.

CHAPTER SKIP

(Discs on which chapter numbers have been recorded)

This function causes the player to jump to the beginning of the next chapter, or to jump to the beginning of the chapter currently being played.
To use the function, press either end of the chapter key as follows:
Pressing the ⏭ end: Player jumps to the beginning of the next chapter.
Pressing the ⏮ end: Player jumps to the beginning of the chapter currently being played.

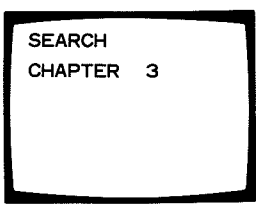
If the key is repeatedly pressed, the player jumps to the beginning of chapters in accordance with the number of times the key is pressed.

NOTE:

- *If chapter skip operation is performed during repeat playback, the repeat mode is cancelled.*
- *When chapter skipping in the reverse direction, be careful of the number of times you press the key. The first time you press the key, the player jumps to the beginning of the currently playing chapter. The second time you press the key, the player jumps to the beginning of the preceding chapter.*
- *In the case of discs on which chapter numbers have not been recorded, the chapter skip function cannot be used.*
- *During chapter program play, the chapter skip key causes the player to jump to the next (or previous) memory step.*
- *If skipping is performed beyond the range of the recorded chapter numbers, the player goes into play mode at the end of the disc, and then stops playing back after about 10 seconds. If you skip to a number which is greater than the recorded number, please return in the reverse direction within 10 seconds.*

ABOUT THE SEARCH DISPLAY

During search operation for chapter skip, random access or chapter program play etc., the word "SEARCH" appears on the screen together with the number of the chapter, frame (or time) being searched for.

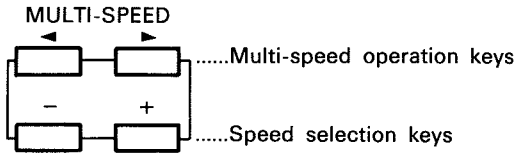


(Searching for Chapter 3)

MULTI-SPEED

(Standard play disc only)

With this function you can choose from a fast 3-times normal playback speed to an ultra-slow, one frame every 3 seconds, allowing you to enjoy playback at whatever speed you desire.
During multi-speed playback, sound is not output.



[Speed Selection]

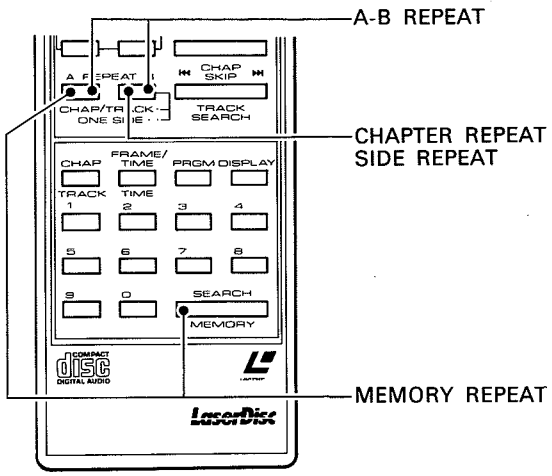
When power is turned on "1/4" is selected.
Using the "+" and "–" keys selection of 9 speeds is possible.
During the time the "+" and "–" keys are being pressed, the speed is displayed on the screen.

"–" Key	Screen Display	Speed	"+" Key
⇩	× 3	3-times play mode speed	⇧
	× 2	2-times play mode speed	
	× 1	Same as play mode speed	
	1 / 2	1/2 play mode speed	
	1 / 4	1/4 play mode speed	
	1 / 8	1/8 play mode speed	
	1 /16	1/16 play mode speed	
	STEP 1	Plays one frame every second	
	STEP3	Plays one frame every 3 seconds	

The selected speed is remembered even when another playback mode is selected, but when playback is stopped and the disc is taken out, the speed is restored to 1/4 of play mode speed.
During playback modes other than multi-speed mode, the player can also accept "+" and "–" key operations, so the speed of multi-speed playback can be set in advance.
When the multi-speed operation keys (◄ , ►) are pressed during chapter number and frame/time number display, the speed is displayed.

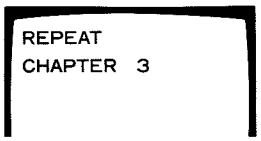
REPEAT PLAYBACK

This function allows playback of part or all of one side of a disc. Do this using the remote control unit.



ABOUT THE REPEAT DISPLAY

During the time the player is searching for the starting point during repeat mode, the word "REPEAT" is displayed on the screen, and not the word "SEARCH".



(When Chapter 3 is being repeated)

REPEAT PLAYBACK BETWEEN TWO POINTS (A-B)

This function repeatedly plays back an interval between specified frames (standard play disc) or between specified times (extended play discs).

[Procedure]

1. **At the beginning point of the interval you wish to repeat, press the repeat (A) key.**

An asterisk (*) will flash at the top right of screen.

2. **At the end point of the interval you wish to repeat, press the repeat (B) key.**

The asterisk (*) at the top right of screen will disappear.
(In chapter number and frame/time number display mode, the asterisk (*) will remain on the screen)

The A-B REPEAT indicator on the front panel of the player will light, and the interval between A and B will be repeatedly played back.

NOTE:

- *In the case of standard play discs, the repeat interval can be specified during play, still frame and multi-speed playback, and in the case of extended play discs the repeat interval can be specified during play mode playback.*
- *If you press the (A) key and then return to an earlier point in the program and press the (B) key (B < A), the player will repeat the interval between B and A, using B as the starting point and A as the end point.*

MEMORY REPEAT

This function allows you to specify a scene which you want to see again, so that you can return to the scene again at any time.

[Procedure]

1. **Press the REPEAT (A) key at the scene you wish to memorize.**

An asterisk (*) will flash at the top right of the screen.

2. **Continue playback, and when you want to return to the scene specified in (1) press the SEARCH key.**

The player will search for the scene specified by pressing the (A) key in step (1), and will playback that scene.

CHAPTER REPEAT (Discs on which chapter numbers are recorded)

This function repeatedly plays back the currently playing chapter.

[Procedure]

Play the chapter which you want to be repeatedly played and press REPEAT (B).

The CHAP./TRACK REPEAT indicator on the front panel will light.

After playing to the end of the chapter, the player will search for the start of the chapter, and play it again.

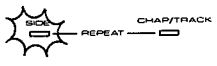
If REPEAT (B) is pressed when a disc without chapter numbers is being played, the player will go into side repeat mode described below. (If this occurs the SIDE REPEAT indicator will light, so please check the indicator display.)

SIDE REPEAT

This function repeatedly plays one side of a disc.

[Procedure]

Press REPEAT (B) in chapter repeat mode.



Accordingly, if you are playing back a disc on which chapter numbers are recorded, and are not already in chapter repeat mode, you should press REPEAT (B) twice in succession.

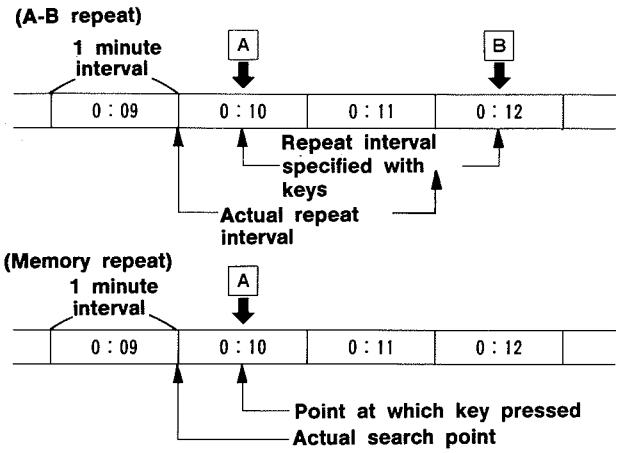
The SIDE REPEAT indicator on the front panel will light, and the CHAP./TRACK REPEAT indicator will go out.

After playing back to the end of one side of the disc, the player searches for the start of the disc, and plays the disc again.

REPEAT INTERVALS FOR EXTENDED PLAY DISCS

In the case of extended play discs, repeat playback is carried out using time numbers recorded on the disc. On some discs, time numbers are recorded with seconds as the minimum units, while on other discs, time numbers are recorded with minutes as the minimum units.

When A-B repeat or memory repeat are carried out with extended play discs on which time numbers are recorded with seconds as the minimum units, the point (scene) at which the key is pressed, and the actual repeat interval or search point (scene), corresponds almost exactly, but in the case of discs on which time numbers are recorded with minutes as the minimum units, these points do not always correspond.



NOTE:
In the case of discs on which time numbers are recorded in minute units, the minimum A-B repeat interval is one minute. Also if the [A] and [B] repeat keys are pressed within the same "minute", A-B repeat is not performed.

TO CANCEL THE REPEAT MODE

To cancel the repeat mode, press the CLEAR key.

- **During A-B repeat...**
  After playing up to point B, the player advances to the next frame number or time number without returning to point A.
- **During chapter repeat...**
  After playing to the end of the chapter currently being repeated, the player advances to the next chapter.
- **During side repeat...**
  After playing to the end of the disc, playback ends, and the disc stops rotating.
  The scan, chapter skip, and reverse multi-speed operation also result in cancellation. (Refer to "PLAYBACK MODES DURING REPEAT OPERATION".)
  Pressing the REPEAT key also causes cancellation. (Refer to "SELECTION OF REPEAT MODE WITH THE REPEAT KEY".)

PLAYBACK MODES DURING REPEAT OPERATION

During interval repeat, chapter repeat, and side repeat modes, the playback mode can be changed and search and other operations can be performed. In the case of some operations this will result in the cancellation of repeat playback, but in the case of other operations this will not result in cancellation of repeat playback.

Operations which do not result in cancellation of repeat modes	● Play ● Pause ● Still/Step ● Multi-speed in the forward direction (►)
Operations which result in cancellation of repeat modes	● Scan (See NOTE) ● Chapter skip ● Search operation (Frame/time, chapter, DIGIT key input) ● Chapter program ● Multi-speed in the reverse direction (◄) (See NOTE)

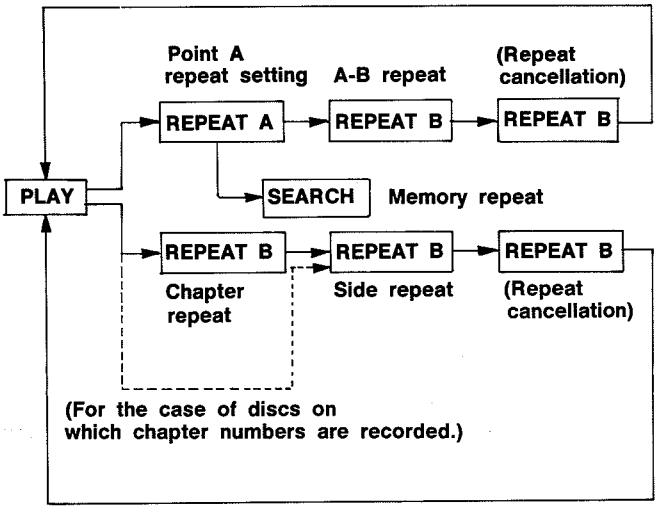
NOTE:
Side repeat is not cancelled even by the scan or multi-speed operations.

SELECTION OF REPEAT MODE WITH THE REPEAT KEY

The REPEAT (B) key, can be used to specify a different repeat mode and to cancel the repeat mode. Obtain confirmation by observing the indicators on the front panel of the player, and the screen display, and enjoy the repeat mode of your choice.

The repeat mode selections which can be made using the REPEAT (B) key, are shown in the figure below. Please make use of this for specifying and changing the repeat mode.

[Repeat mode selections using the REPEAT (B) key]



SEARCH (RANDOM ACCESS)

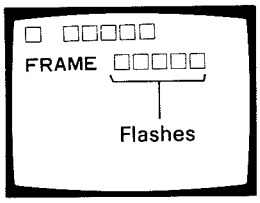
This function searches for the required scene using either frame numbers, chapter numbers, or time numbers. To search for a scene, use the remote control unit after a picture appears on the screen.

FRAME NUMBER SEARCH (Standard play discs only)

This function allows you to search for the specified frame number, and plays it back as a still picture.

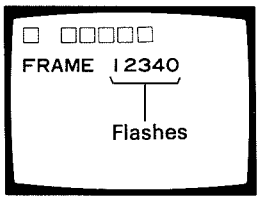
[Example]
To search for frame number 12340

1. Press the FRAME/TIME key



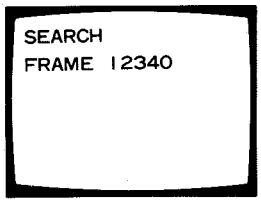
FRAME □ □ □ □ □ appears on the screen.
The number which appears is the frame number which was previously searched for.

2. Press 1, 2, 3, 4, 0

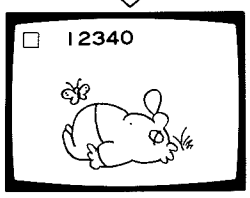


The indication FRAME 12340 appears on the screen.

3. Press the SEARCH key



The SEARCH indication appears.
Picture and sound disappear, and the play indicator flashes.



The image of frame 12340 appears as a still picture.

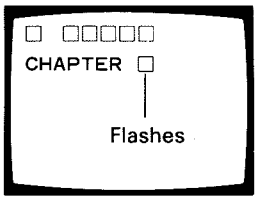
CHAPTER NUMBER SEARCH (For standard play and extended play discs on which chapter numbers have been recorded.)

This function allows you to search for the beginning of a designated chapter.

NOTE:
Chapter number search cannot be performed when playing back discs on which chapter numbers are not recorded.

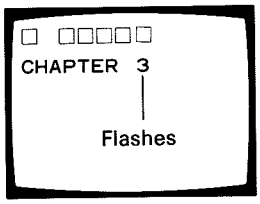
[Example]
To search for the beginning of Chapter 3

1. Press the CHAPTER key



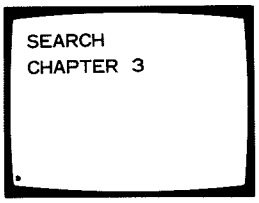
CHAPTER □ □ appears on the screen.
The number which appears is the number of the chapter which was previously searched for.

2. Press 3

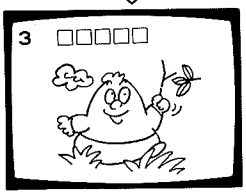


The indication CHAPTER 3 appears on the screen.

3. Press the SEARCH key



The SEARCH indication appears.
Picture and sound disappear, and the play indicator flashes.



The start of Chapter 3 appears as a still picture in the case of a standard play disc, or is reproduced in play mode in the case of an extended play disc.

- If you specify a chapter number, frame number or a time number which is larger than maximum recorded number, the player will search near the end of the side being played. Please be careful.
- If the PLAY key or multi-speed key is pressed during search operation (when the PLAY indicator is flashing during the time the player is searching for the specified image), in the case of a standard play disc, the player will playback in that mode (play or multi-speed) after the search operation has been completed.

■ If you make a wrong entry with the DIGIT keys, press the CLEAR key and enter the number again.
■ To cancel the search mode during search operation procedure, press the CLEAR key, and after "0" is displayed, press the CLEAR key again.

TIME NUMBER SEARCH
(Extended play discs only)

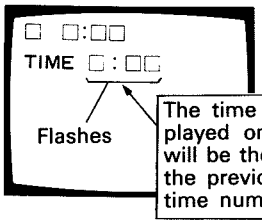
This function allows you to search for pictures corresponding to the elapsed playing time from the beginning of a program.

NOTE:
Depending on the disc, time numbers may be recorded with either seconds as the minimum unit, or with minutes as the minimum unit.
With these different types of disc, searching may be performed to either second accuracy or minute accuracy respectively. As the two types of disc require slightly different methods of numeric entry, please be careful when entering numerals.

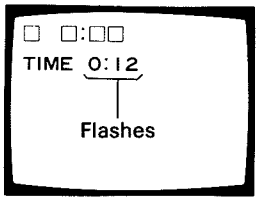
[Example]
To search for the picture 12 minutes from the beginning of a program.

For discs with "minute" time numbers

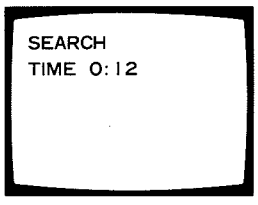
1. Press the FRAME/TIME key
(TIME □:□□ will be displayed)

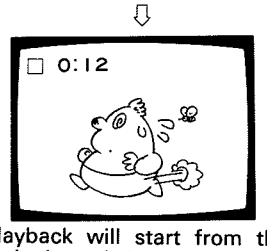


2. Press 1, 2
(TIME 0:12 will be displayed)



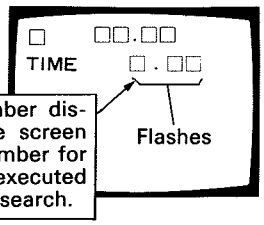
3. Press the SEARCH key
(The SEARCH display will appear, the picture and sound will disappear, and the PLAY indicator will flash.)





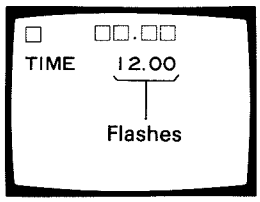
For discs with "second" time numbers

1. Press the FRAME/TIME key
(TIME □□.□□ will be displayed)

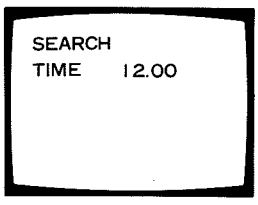


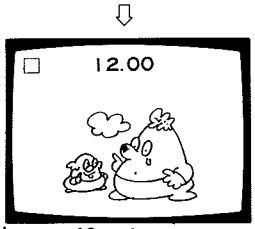
The time number displayed on the screen will be the number for the previous executed time number search.

2. Press 1, 2, 0, 0
(TIME 12.00 will be displayed)



3. Press the SEARCH key





(Playback will start from the picture 12 minutes from the beginning of the program.)

NOTE:
When the search time is entered with the DIGIT keys, the same numeric entry will represent different times depending on whether the time numbers recorded on the disc are seconds or minutes.
For example, if DIGIT keys 1 and 2 are pressed after pressing the FRAME/TIME key, the search times for the two kinds of disc are as follows.

- *For a disc on which seconds are recorded, TIME 0.12 will appear, and the player will search for the picture 12 seconds from the start of the program.*
- *For a disc on which seconds are not recorded, TIME 0:12 will appear, and the player will search for the picture 12 minutes from the start of the program.*

ABBREVIATION OF SEARCH PROCEDURE

The numerals entered during search operation are not modified until either the stop of disc playback or until a new numeric entry is made.
If you want to search for the same picture indicated by the numeric display which appears when either the FRAME/TIME or the CHAPTER key is pressed, you can search for the picture by simply pressing the SEARCH key.
Also, if you want to change the search numbers for (frame, time or chapter number search) which you just entered while playing the same disc, you can simplify the operation by omitting to press the FRAME/TIME or CHAPTER key. (You can start with DIGIT key entry operation.)

[Example]
When playing a standard play disc
If you have pressed
FRAME/TIME 12340 SEARCH
(To search for frame 12340)
you can later press
FRAME/TIME SEARCH
to search for frame 12340 again.
Or, if you press
15000 SEARCH
the player will search for frame 15000.

START OF PLAYBACK BY MEANS OF CHAPTER NUMBER SEARCH

If a disc is placed on the disc table, and chapter number search operations performed before pushing in the disc table, playback will start from the beginning of the specified chapter when you push in the disc table.
Playback can also be started by means of chapter search, when playback is stopped and the disc stops rotating.
In such cases, the player enters play (normal playback) mode after search operation, even if a standard play disc is being played (the player does not enter still frame playback mode).

COMPACT DISC PLAYBACK FUNCTIONS

DISPLAY OF PLAYBACK INFORMATION ON THE TV SCREEN

When a Compact disc is being played, the relevant playback information (the number of the track being played, the index number, and the elapsed time from the start of track playback), are displayed on the TV or TV monitor.

The DISPLAY key enables the REMAIN indication (the playback time remaining until the end of the disc from the point currently being played), and the TOTAL indication (the total number of tracks on the disc, and the overall playing time) to be displayed.

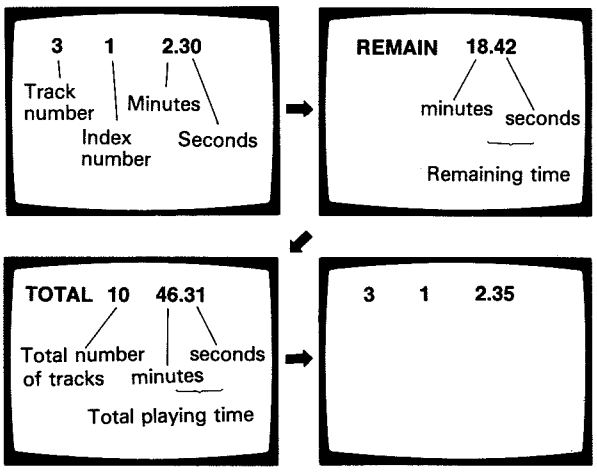
(Playback start time)
....Track No. Index No. Minutes Seconds

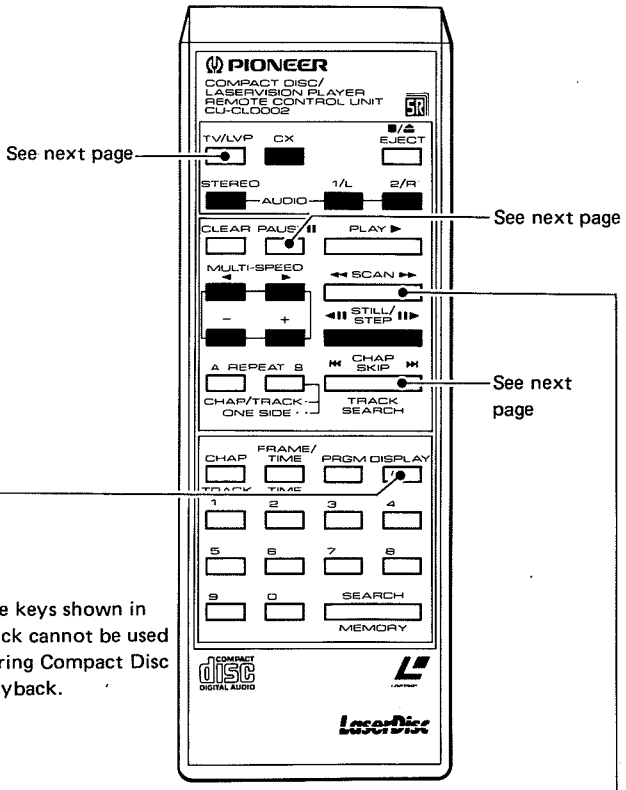
Press DISPLAY
REMAIN Remaining time

Press DISPLAY
TOTAL Total number of tracks, Total playing time

Press DISPLAY—Returns to initial display
Track No. Index No. Minutes Seconds

The index signal which is pre-recorded, indicates divisions within the music recorded on a given track. If a disc has an index signal recorded on it, the mark INDEX appears on the explanation accompanying the disc.





SCAN (FAST FORWARD, FAST BACKWARD)

When either end of this key is pressed after starting playback, the player goes into either fast forward or fast backward modes, and remains in these modes during the time the key is pressed.

►► : Fast forward ◄◄ : Fast backward

When scan operation is performed from play mode, the playback sound can be heard faintly.

When scan operation is performed from pause mode, scan operation is performed without sound, and when the key is released, the player returns to pause mode.

The speed at which scan operation is performed, is increased in two stages. During the first two seconds following the pressing of the key, low speed scan operation is carried out, but following this, high speed scan operation is carried out.

If scan forward operation is performed to the end of the disc, the player enters pause mode.

The player also enters pause mode, if scan backward operation is performed to the beginning the disc.

TRACK SEARCH (Skip selection)

These functions cause the player to jump to the start of the next track, or jump to the start of the track currently being played.

⏭ : Search for the start of the next track

⏮ : Search for the start of the track currently being played

If these keys are repeatedly pressed, the player jumps to the start of successive tracks. This makes it easy for you to reach the start of the track you want to hear.

NOTE:

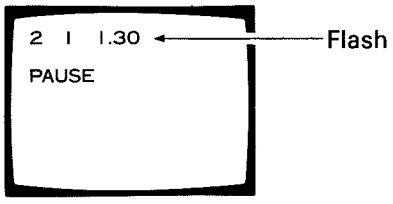
- *If the track search key is pressed during pause mode, the player returns to pause mode after the jump.*
- *Be careful when you press the key to jump in the reverse direction. The first time you press the key, the player jumps to the beginning of the currently playing track. The second time you press the key, the player jumps to the beginning of the previous track.*
- *If the forward track search key is pressed during playback of the last track on the disc, or if the player is in pause mode over the last track on the disc, the player does not accept the command from the key. The player also does not accept commands for track searches beyond the last track.*

You can also select a track by specifying the track number of the track you want to play with the numeric keys. Please refer to page 31 "TRACK NUMBER SEARCH".

PAUSE

Pressing this key causes temporary interruption of playback.

The word "PAUSE" is displayed, and the current track number, index number, minute and second flash on the screen.



Pressing the key again causes playback to resume from the point of interruption.

NOTE:

- *When the PAUSE key is pressed during search operation, the player goes into pause mode when the search ends.*
- *During track program play, "PAUSE" is not displayed. PAUSE mode is indicated by the flashing of the current track number, index number, minute and second.*

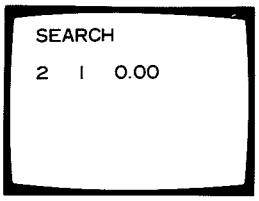
TV/LVP

This function switches between display of playback information and reception of TV broadcasts. The key functions the same way as during LaserVision Disc playback.

(Refer to page 17 "TO WATCH A TV BROADCAST".)

ABOUT THE SEARCH DISPLAY

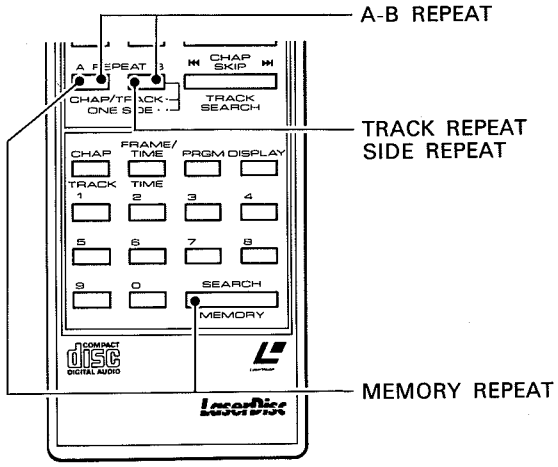
During execution of search operations for track search, random access, or track program play etc., "SEARCH" is displayed on the TV screen together with the number of the track being searched for and a numeric time indication.



(Searching for track 2 with track search function)

REPEAT PLAYBACK

This function allows playback of part or all of a disc.
Do this using the remote control unit.

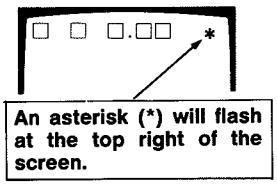


REPEAT PLAYBACK BETWEEN TWO POINTS (A-B)

This function repeatedly plays back an interval between two points on a disc.

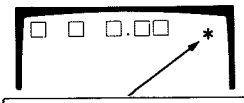
[Procedure]

1. At the beginning the interval you wish to repeat, press the repeat (A) key.



An asterisk (*) will flash at the top right of the screen.

2. At the end of the interval you wish to repeat, press the repeat (B) key.



The asterisk (*) at the top right of screen will continue to be displayed.

The A-B repeat indicator on the front panel of the player will light, and the interval between A and B will be repeatedly played back.
If you press the (A) key and then return to an earlier point in the program and press the (B) key (B<A), the player will repeat the interval between B and A, using B as the starting point and A as the end point.

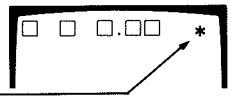
MEMORY REPEAT

This function allows you to specify a starting point which you want to play again, so that you can return to that point again at any time.

[Procedure]

1. Press the REPEAT (A) key at the point you wish to memorize.

An asterisk (*) will flash at the top right of the screen.



Continue playback, and when you want to return to the point specified in (1) press the SEARCH key.

The player will search for the point specified by pressing the (A) key in (1) (track number, minute and second), and will playback from that point.

TRACK REPEAT

This function repeatedly plays back the currently playing track.

[Procedure]

Play the track which you want to be repeatedly played and press REPEAT (B).

The CHAP./TRACK REPEAT indicator on the front panel will light.
After playing to the end of the track, the player will search for the start of the track, and play it again.

SIDE REPEAT

This function repeatedly plays one side of a disc.

[Procedure]

Press REPEAT (B) in track repeat mode.

Accordingly, if you are not already in track repeat mode, you should press REPEAT (B) twice in succession.

The SIDE REPEAT indicator on the front panel will light, and the CHAP./TRACK REPEAT indicator will go out.
After playing back to the end of the disc, the player searches for the start of track 1, and plays the disc again.

TO CANCEL THE REPEAT MODE

To cancel the repeat mode press the CLEAR key.

● During A-B repeat...

After playing up to point B, the player continues playing past point B without returning to point A.

● During track repeat...

After playing to the end of the track currently being repeated, the player advances to the next track and continues playback.

● During side repeat...

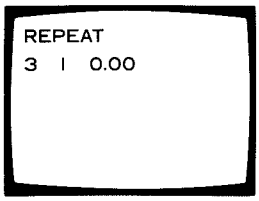
After finishing playing the last track on the disc, the disc stops rotating.

Pressing the REPEAT (B) key also causes cancellation. (Refer to "SELECTION OF REPEAT MODE WITH THE REPEAT KEY".)

The initiation of scan, track search (skip selection), search, and track program play operation also result in cancellation of repeat mode. (Side repeat is not cancelled by scan operation.)

ABOUT THE REPEAT DISPLAY

During the time the player is searching for the starting point during repeat mode, the word "REPEAT" is displayed on the screen, and not the word "SEARCH".



(When Track 3 is being repeated)

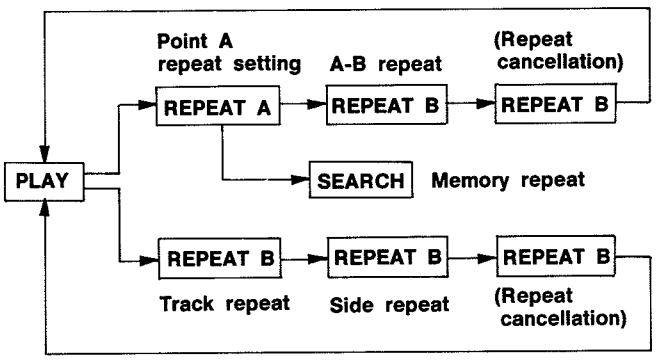
SELECTION OF REPEAT MODE WITH THE REPEAT KEY

The single REPEAT (B) key, can be used to specify and cancel various repeat modes.

Obtain confirmation by observing the indicators on the front panel of the player, and enjoy the repeat mode of your choice.

The repeat mode selections which can be made using the REPEAT (B) key, are shown in the figure below. Please make use of this for specifying and changing the repeat mode.

[Repeat mode selections using the REPEAT (B) key]



SEARCH (RANDOM ACCESS)

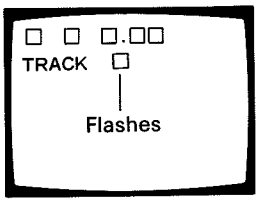
This function searches for the start of the track which you wish to play, or for an optional time (elapsed playback time) within the track being played back, and then plays back from that point.

TRACK NUMBER SEARCH (Direct selection)—

This function allows you to search for the start of the specified track number, and plays it back.

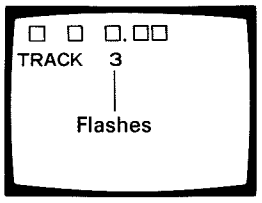
[Example] To search for Track 3

1. Press the TRACK key



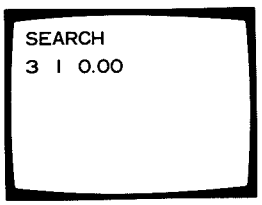
TRACK □ appears on the screen.
The number which appears is the track number which was previously searched for.

2. Press 3



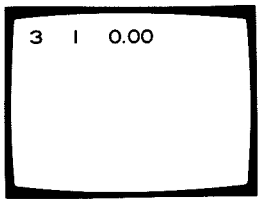
TRACK 3 appears on the screen.

3. Press the SEARCH key



The SEARCH indication appears.
The play indicator flashes.

⇩



The player searches for the 0 minute 00 second point on Track 3, and then begins playback.

If desired, pressing of the TRACK key can be omitted. Search operation will be performed if you only press (3), SEARCH.

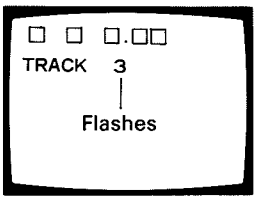
* The table of contents (TOC), consists of information about track numbers and playback times, and is recorded on the Compact Disc.

TIME NUMBER SEARCH

This function allows you to search for the point corresponding to a specified time in minutes and seconds, from the start of a specified track.

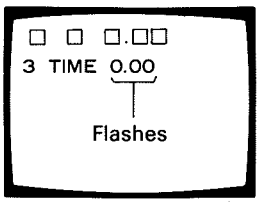
[Example] To search for the point 1 minute and 23 seconds from the beginning of Track 3

1. Press 3



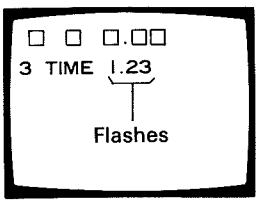
TRACK 3 appears on the screen.

2. Press the TIME key



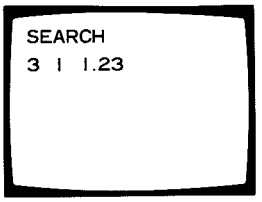
3 TIME 0.00 appears on the screen.

3. Press 1, 2, 3



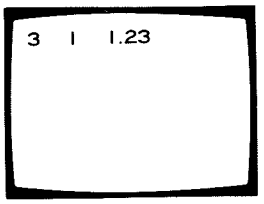
3 TIME 1.23 appears on the screen.

4. Press the SEARCH key



The SEARCH indication appears.
The play indicator flashes.

⇩



The player searches for the point 1 minute and 23 seconds from the start of Track 3, and then begins playback.

When the TIME key is pressed without prior entry of the track number, the track being played back is selected.

If the specified search time is longer than the length of the track, the table of contents (TOC)* cannot be correctly read, and the player does not accept the search command.
If the disc is scratched so that the TOC cannot be read, the player searches for the start of the next track.

PROGRAM PLAYBACK

CHAPTER PROGRAM PLAY **[LASERVISION DISC]**
(Discs on which chapter numbers are recorded only)

TRACK PROGRAM PLAY **[COMPACT DISC]**

This function lets you play back chapters on LaserVision Discs or tracks on Compact Discs, in any order you like. You can program the order you want using the remote control unit.
Chapter programming is not possible for LaserVision Discs on which chapter numbers are not recorded.

NOTE:
- *Programming is possible during play, pause and repeat modes, but programming during repeat mode causes repeat mode to be cancelled.*
- *In the case of standard play LaserVision (CAV) Discs, programming can be done during still frame, and multi-speed playback also.*

[Program Playback Procedure]

A maximum of 10 steps can be programmed.
The programmed chapter or track numbers are displayed on the screen in order.
Attempts to program more than 10 items are not accepted.

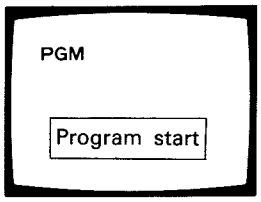
STEP 1..... Press the PRGM key.
STEP 2..... Enter a chapter or track number using DIGIT keys 0 - 9.
STEP 3..... Press the MEMORY key (the same as the SEARCH key).
If required, repeat steps 2 and 3.
STEP 4..... Press the PLAY key.

- Playback is in the programmed order.
- When all programmed steps have been played back, the player enters stop mode, and the program is cleared.

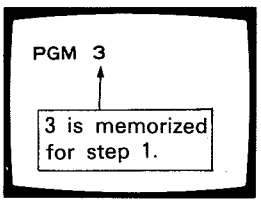
NOTE:
If chapter or track numbers not on the disc are entered.
- *In the case of LaserVision Discs...*
  Chapter numbers not on the disc are programmed, but are skipped during program playback.
- *In the case of Compact Discs*
  If the TOC has been read after beginning playback, track numbers not on the disc can not be entered into the program.
  If programming was done before playback, entry of track numbers not on the disc is accepted, but when program playback is begun, the numbers are eliminated from the program when the TOC is read.

[EXAMPLE] To program playback of chapters or tracks 3, 6, and 1, in that order

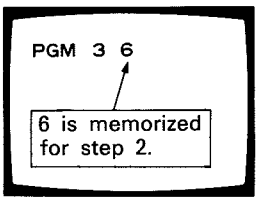
PRGM



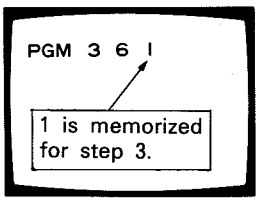
3, MEMORY



6, MEMORY



1, MEMORY



PLAY .... Start of program play.

CANCELLATION OF PROGRAM PLAYBACK

When all of the programmed chapters or tracks have been played back, the disc stops rotating, and the program is cleared.
To cancel playback part way through program playback, press the CLEAR key. (This will also cause the program to be cleared.)

NOTE:
- *If scan, search, or repeat operations are performed during program playback, the program playback will be cancelled.*
- *During playback of a standard play (CAV) LaserVision Disc, program playback will be cancelled if multi-speed operation in the reverse direction (◀) is carried out.*

CORRECTION OF NUMERIC ENTRIES

To correct the numbers that have been entered, press the PRGM key and then re-enter the numbers.
To correct the number for the current step, press the "0" key to make the number displayed for that step "0", and then enter the correct number.

PROGRAM PLAYBACK FROM STOP MODE

If the player is programmed when the disc is not turning, or when the disc table is out, playback can start with program playback.
[Example]

Place a LaserVision Disc on the extended disc table.
If you then perform the operations:
PRGM, 3, MEMORY, 1, MEMORY, PLAY, and push in the disc table, Chapter 3 and Chapter 1 will be played in that order.

PAUSE PROGRAM

In place of a chapter or track number, it is possible to program a pause. When this is done, a "P" is displayed on the TV screen.
[Example]

Program Compact Disc playback so that the player plays Track 3, pause, and Track 5.
Press PRGM, 3, MEMORY, PAUSE, MEMORY, 5, MEMORY and PLAY.
The player will then play Track 3, and search for and pause at the beginning of Track 5 and pauses.
When the PLAY key is pressed, playback of Track 5 will begin.

If a pause is programmed during the last step, the player will playback the chapter or track specified for the previous step, and then pause at the beginning of the next track or chapter.

SKIPPING OF PROGRAM STEPS

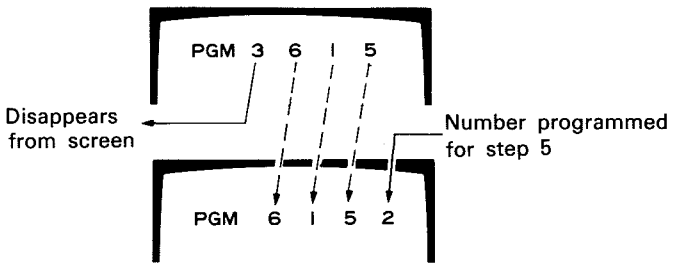
If the CHAPTER SKIP/TRACK SEARCH key is pressed during program playback, a program step can be skipped.
[Example]
Let us assume 3, 6, 1, 5, and 2 have been programmed for a LaserVision Disc, and that playback is in progress.

- During playback of Chapter 1 (step 3) the ⏭ side of the CHAPTER SKIP key is pressed. → The player will skip to the beginning of Chapter 5 (step 4).
- During playback of Chapter 1 (step 3) the ⏮ side of the CHAPTER SKIP key is pressed. → The player will skip to the beginning of Chapter 1 (step 3).
  If the key is repeatedly pressed, steps will be skipped accordingly.
  If a pause is programmed, the skip operation will ignore the pause, and will skip to the following (or preceding) step.

PROGRAM DISPLAY

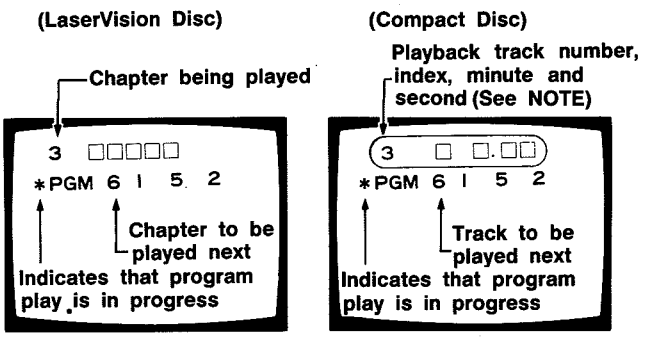
[While programming]

As shown in the example, the chapter or track numbers entered with the DIGIT keys are displayed on the TV screen.
If 5 or more numbers are entered, the number which was first entered will disappear from the screen, and the numbers will scroll to the left, but they will not be erased from memory.
For example, if 3, 6, 1, 5, and 2 are programmed, the entry of 2 will cause 3 to disappear from the screen, but 3, 6, 1, 5, and 2 will remain in memory.



[During program play]

When chapter, frame/time display is performed during program play of a LaserVision Disc, the program is displayed simultaneously.
During track program play of a Compact Disc, the playback information and program are displayed simultaneously.

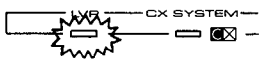
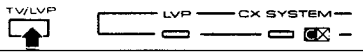

(LaserVision Disc)
Chapter being played
3 □□□□
*PGM 6 1 5 2
Chapter to be played next
Indicates that program play is in progress
(Compact Disc)
Playback track number, index, minute and second (See NOTE)
3 □ □.□□
*PGM 6 1 5 2
Track to be played next
Indicates that program play is in progress

NOTE:
Display of playback information during track program play.
During program play, the REMAIN and TOTAL displays explained in "DISPLAY OF PLAYBACK INFORMATION ON THE TV SCREEN" on page 27, indicate the remaining program play time, the total program track numbers, and the total program time.

- *If a pause is programmed, the pause is not included in the TOTAL track number display.*
- *If the REMAIN or TOTAL time exceeds 99 minutes and 59 seconds, the minutes are displayed as 3 figures.*

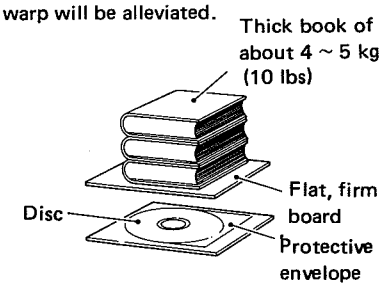
TROUBLESHOOTING

Before concluding that the player is out of order, please refer to this troubleshooting guide to make sure that there is not a simple remedy for the problem. The vast majority of performance problems have their source in set up errors, bad connections to other equipment, or malfunctions of other equipment (TV, stereo system). Find the trouble symptom on the chart below, and try the suggested remedies.

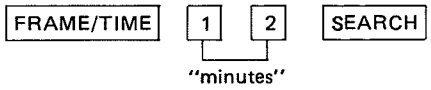
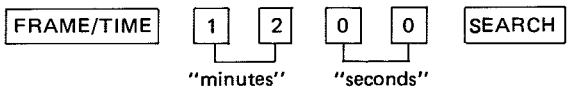
SYMPTOM	CAUSE	REMEDY
1 **Disc table is not expelled when EJECT button is pressed.**	• Power cord is not properly plugged into AC wall socket. • Power switch is not turned on.	• Plug in power cord. • Turn on power switch.
2 **Automatic start not functioning.**	• Other equipment connected to I/O port on rear.	• Automatic start function cannot be used when controlling through I/O port.
3 **Disc table is expelled after PLAY indicator blinks for approx. 10 seconds.** 4 **Player stops part way through playback, and disc table opens.**	• Disc is warped or dirty. • Moisture has condensed on parts in the player.	• Refer to instructions under "Remedy", item 11, and correct or clean disc. • Remove disc and let player stand for 1 to 2 hours until it is dry.
5 **TV no longer receives other channels after it has been connected to the player.**	• Antenna cable has not been connected. • LVP indicator is lit, and player is in LVP mode. 	• Connect VHF antenna cable to antenna terminal on the player. • Press the TV/LVP key on the remote control unit to turn the indicator off, or turn off the player's power switch. 
6 **Slanting stripes appear on the TV screen when TV/LVP key is pressed to receive TV broadcasts.**	• Electric field for TV broadcasting is weak. (This does not indicate any trouble.)	• Turn off the power switch of the player. We recommend that you turn off the power switch of the player, whenever you intend to watch TV for a long time.
7 **Remote control does not work.**	• Remote control unit batteries are weak. • There is an obstacle between the player and the remote control unit. • Remote control unit is not in a good location for transmission. • Other equipment is connected to I/O port on rear panel, or a plug is inserted in CONTROL IN terminal.	• Replace batteries. • Remove the obstacle or shift the remote control position. • Operate the remote control unit in front of the player. • Commands from remote control not accepted when I/O port or CONTROL IN terminal are in use.
8 **Operation of the remote control unit causes the TV to operate improperly.**	• Some TV sets have remote control functions that operate improperly in response to the remote control unit of the player.	• Move the TV and the player further apart, or cover the remote sensor of the TV during disc playback.

WHEN A LASERVISION DISC IS BEING PLAYED

SYMPTOM	CAUSE	REMEDY
9 **Disc rotates but there is no picture.**	• The TV set is not turned on. • Wrong connections from player to TV. • TV set is not turned to channel 3 or 4. • Player VHF CHANNEL SELECTOR is at the wrong setting. • Player is in the PAUSE mode. • LVP indicator is not lit.	• Turn on TV. • Make correct connections. • Set TV to the channel (3 or 4) that is not used for TV broadcasting in your area. • Set selector to same channel as the TV's empty channel. • Press the PLAY key. • Press the TV/LVP key on the remote control unit so that the LVP indicator turns on.

SYMPTOM	CAUSE	REMEDY
10 Picture continuously moves vertically	• The TV vertical hold control is not adjusted properly.	• Adjust vertical-hold control on TV.
11 Particular disc does not play back properly. The playback stopped in the middle of the disc program.	• The playing surface of the disc is dirty. • The disc is warped.	• Use a soft cloth and lightly wipe off the dirt from the surface of the disc. If necessary, moisten a cloth with diluted neutral detergent to remove heavy dirt or fingerprints. • Put the disc into the protective envelope, then place it on a flat desk top. Subsequently, place a flat board on the disc, and load it with weights of about 4 ~ 5 kgs (about 10 lbs). If it is left in this state for one day, sometimes the warp will be alleviated. 
12 Sound is unnatural or distorted.	• CX system is turned ON for disc which has no "CX" mark.	• Press CX key (on remote control unit) to turn CX system OFF.
13 No sound output during playback.	• MULTI-SPEED playback is being performed.	• Sound is output only during the normal play mode. The audio channels are not put out during other playback modes.
14 Special effects play cannot be performed.	• Playing back an extended play disc.	• With extended play disc, special effects playback, such as STILL/STEP, MULTI-SPEED cannot be performed.
15 During STILL playback, one part of the screen does not remain still.	———	• Even if the disc is a standard play disc, there may be some cases in which a fully still image cannot be obtained, but this does not mean that the player or the disc is defective.
16 A considerable length of time is required for searching before playback begins.	• It takes time to read the recorded code, depending on the disc.	• Press CLEAR key and picture will appear. (At this point, a scene slightly different from that which has been searched for may appear.)
17 The player takes too long to find point A during A - B (INTERVAL) REPEAT operation.	• Same as item 16 above.	• Press CLEAR key. Picture corresponding with point A or picture close to point A will then appear. (A - B REPEAT is cleared.)
18 CHAPTER SKIP, CHAPTER PROGRAM PLAY and CHAPTER NUMBER SEARCH cannot be performed.	• Disc in which no chapter numbers are not recorded is loaded.	• Press DISPLAY key to check if chapter number is displayed.
19 Disc table is expelled SEARCH, CHAPTER SKIP or CHAPTER PROGRAM PLAY mode.	• Disc is warped or dirty.	• Refer to instructions under "Remedy", item 11, and correct disc or clean.

(To be continued)

SYMPTOM	CAUSE	REMEDY
20 Picture other than that instructed is searched in TIME NUMBER SEARCH mode.	• Method of inputting numerals in the TIME NUMBER SEARCH mode differs, depending on whether time number is recorded on disc in minutes or seconds, as shown below: [e.g.] 12-minute search • Disc in which time number is recorded in minutes  • Disc in which time number is recorded in seconds  	

WHEN PLAYING BACK A COMPACT DISC

SYMPTOM	CAUSE	REMEDY
21 Player stops immediately after starting playback.	• Disc is loaded upside down. • The playing surface of the disc is dirty.	• Load the disc correctly with the label side upward. • Use a soft cloth and lightly wipe off the dirt from the surface of the disc. If necessary, moisten a cloth with diluted neutral detergent to remove heavy dirt or fingerprints.
22 No sound output	• The stereo amplifier is not correctly connected. • You are not operating the stereo amplifier correctly. • The connection terminals and/or the plugs of the connection cords ane dirty. • The plugs of the connection cords are disconnected, or are not fully pushed in. • You have connected the amplifier to the player LV (ANALOG) AUDIO OUT terminals. • The player is in PAUSE mode.	• Connect the amplfier correctly. • Refer to the operating instructions for the amplifier, and operate the amplifier correctly. • Clean the plugs and terminals and connect again. • Make sure that connections are correct. • Connect the amplifier to the CD/LV AUDIO OUT terminals. (The LV (ANALOG) AUDIO OUT terminals, do not provide audio output for Compact Disc playback.) • Press the PLAY key and restore the player to PLAY mode.
23 Sound is distorted	• The stereo amplifier is not correctly connected. • The connection terminals and/or the plugs of the connection cords are dirty. • The plugs of the connection cords are not fully pushed in. • The playing surface of the disc is dirty.	• Connect the CD/LV AUDIO OUT terminals of the player, to the CD or AUX input terminals etc. of the amplifier. (Do not connect to the PHONO input terminals of the amplifier.) • Clean the plugs and terminals and connect again. • Push the plug in firmly. • Use a soft cloth and lightly wipe off the dirt from the surface of the disc. If necessary, moisten a cloth with diluted neutral detergent to remove heavy dirt or fingerprints.

SPECIFICATIONS

1. General

System .....LaserVision Disc system and Compact Disc digital audio system
Laser .....Semiconductor laser wavelength 780 nm
Power requirements .....AC 110/120/220/240 V (Switchable), 50/60 Hz
Power consumption ..... 50 W
Weight .....11.5 kg (25 lb 6 oz)
Dimensions .....420(W) x 408(D) x 120(H) mm 16-9/16(W) x 16-1/32(D) x 4-11/16(H) in
Operating temperature .....+5°C — +35°C
Operating humidity .....5% — 90%
(There should be no condensation of moisture.)

2. Disc

LaserVision Discs

*Maximum playing times
12-inch standard play disc .....1 hour/both sides
12-inch extended play disc .....2 hours/both sides
8-inch standard play disc .....28 min/both sides
8-inch extended play disc .....40 min/both sides
Spindle motor speed
Standard play disc .....1,800 rpm
Extended play disc
.....1,800 rpm (inner circumference) to 600 rpm (outer circumference) (For a 12-inch disc)

Compact Discs

Disc .....Diameter: 120 mm, Thickness: 1.2 mm
Rotation direction (pickup side): Counterclockwise
Linear speed: 1.2 - 1.4 m/sec
*Maximum playing time .....60 min. or more (For stereo playback)

**Actual playback time differs for each disc.*

3. Video characteristics

Format .....NTSC specifications
Video output
Level ...1 Vp-p nominal, sync. negative, terminated
Impedance .....75 Ω unbalanced
Terminal .....RCA jack
VHF output
Channel .....Channel 3 or 4 (switchable)
Impedance .....75 Ω unbalanced
Terminal .....F-type jack

4. Audio characteristics

Output level
CD/LV OUT terminals
During analog audio output .....260 mVrms (1kHz, 40%)
During digital audio output .....260 mVrms (1kHz,-20dB)
LV ANALOG OUT terminals .....260 mVrms (1kHz, 40%)
(For LV analog audio output, 1/L, 2/R and stereo selections are possible)
Terminal .....Both RCA jacks

Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz ($^{+0.5}_{-1.0}$ dB) (EIAJ)
S/N ratio	98 dB or more (EIAJ)
Dynamic range	95 dB or more (EIAJ)
Channel separation	92 dB or more (EIAJ)
Total harmonic distortion	0.005 % or less (EIAJ)
Wow and flutter	Limit of measurement (±0.001% W.PEAK) or less (EIAJ)

5. Other Terminals

I/O PORT .....8-pin, DIN (U-shaped)
SUBCODE OUT .....Round type miniature connector
Headphones jack .....Stereo miniature jack
Control input/output .....Both miniature jacks

6. Accessories

Remote control unit (CU-CLD002) 1
Size "AAA" (IEC R03) dry battery 2
RF antenna cable 1
Video connecting cord 1
Audio connecting cord 1
Antenna adaptor
(75 Ω/300 Ω → 75 Ω F-type plug) 1
F-type jack — IEC plug adaptor 1
Operating instructions 1
Warranty card 1

7. Functions

Functions that can be operated with remote control unit (CU-CLD002)

Functions	LaserVision Disc		Compact Disc
	Standard Play Disc	Extended Play Disc	
PLAY	YES	YES	YES
EJECT	YES	YES	YES
TV/LVP SELECTION	YES	YES	YES
PAUSE	YES	YES	YES
SCAN (Forward, Reverse)	YES	YES	YES
AUDIO CHANNEL SELECTION (Stereo, 1/L, 2/R)	YES(1)	YES(1)	—
CX SYSTEM ON/OFF	YES(2)	YES(2)	—
STILL/STEP (Forward, Reverse)	YES	NO	—
CHAPTER SKIP (Forward, Reverse)	YES(3)	YES(3)	—
MULTI-SPEED (Forward, Reverse: variable in 9 steps)	YES	NO	—
MULTI-SPEED DISPLAY	YES	NO	—
FRAME NUMBER DISPLAY	YES	NO	—
TIME NUMBER DISPLAY	NO	YES	—
CHAPTER NUMBER DISPLAY	YES(3)	YES(3)	—
FRAME NUMBER SEARCH	YES	NO	—
TIME NUMBER SEARCH	NO	YES	—
CHAPTER NUMBER SEARCH	YES(3)	YES(3)	—
CHAPTER REPEAT	YES(3)	YES(3)	—
A-B (INTERVAL) REPEAT	YES	YES	YES
MEMORY REPEAT	YES	YES	YES
SIDE REPEAT	YES	YES	YES
PROGRAM PLAYBACK	YES(3)	YES(3)	YES
PROGRAM DISPLAY	YES(3)	YES(3)	YES
TRACK SEARCH (SKIP SELECTION)	—	—	YES
TIME SEARCH	—	—	YES
TRACK REPEAT	—	—	YES
TRACK NUMBER SEARCH (DIRECT SELECTION)	—	—	YES
TRACK.INDEX.TIME DISPLAY	—	—	YES
REMAINING TIME DISPLAY	—	—	YES
TOTAL TRACKS.TOTAL TIME DISPLAY	—	—	YES

NOTE:

(1) Selection possible for analog sound only.

(2) Valid for analog sound when playing a disc with the CX mark.

(3) Possible for playback of disc on which chapter numbers are recorded.

Other Functions

- Automatic start (Possible for both CD and LV.)
- Automatic picture stop (LV: Possible only for discs on which picture stop codes are recorded.)
- Digital/analog sound selection for LaserVision with Digital Sound Discs (Using LVP AUDIO button on the front panel, output from the CD/LV AUDIO OUT terminal.)

NOTE:

Specifications and design subject to possible modifications without notice, due to improvement.

LaserDisc™ LaserDisc is a trademark of Pioneer Electronic Corporation.

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. 5000 Airport Plaza Drive P:O. Box 1720, Long Beach, California 90801-1720 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 6B8 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium TEL: 03/775·28·08
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

‹86L00F06C02›

Printed in Japan <VRB1001-A>